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AUTHOR Scales, Alice M., Ed.; Peebles, James D., Ed.
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ABSTRACT

Eight papers addressing a variety of issues in communication skills and language arts instruction are contained in this document. Among the topics covered in the eight papers are the following: (1) language structure in teaching reading, (2) issues of dialect-specific materials, (3) language mismatch in the reading classroom, (4) miscue analysis, (5) language patterns in the classroom, (6) encouraging students to respond to literature, (7) ways of promoting student writing, (8) using cloze procedure, (9) formal standardized tests, (10) technology in the classroom, and (11) encouraging parents to help their children become literate. The document concludes with abstracts of workshops held at the conferences at which the papers were given. (JL)

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READING AND WRITING:
CONCEPTS FOR TEACHING AND LEARNING

Proceedings of the 30th and 31st Language
Communications Conferences
July 13-15, 1977 and June 19-21, 1978

EDITED BY

Alice M. Scales James D. Peebles

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FORWARD

The University of Pittsburgh's Thirtieth and Thirty-First Language Communications conference summaries offer a broad sweep of current thought, research and exciting practical examples of ongoing concerns today in English/Language Arts across the country. Topics range from "basic" pre-school similarity and differentiation skills in the home with silverware, buttons and matching grocery store labels, to computer usage of mathematical relations, geometric forms and pictures creating a graphic language system of synthareading, synthawriting and synthavision.

All teachers want students to learn. To promote this goal almost all teachers have recognized the influence of language on cognitive development and that there is no language inadequate for cognitive development. The language blocks laid and molded into a meaningful base during a child's earliest years form the foundation for an ever evolving language structure. Therefore, the importance of using the child's system of language cannot be minimized.

While many of the issues addressed in the *Proceedings* represent present concern about language development, many of them are not of recent origin. In these cases, the contemporary issues are by-products of major problems that have existed in education over a long period of time. For example, understanding the relationship between test language and test scores has gained importance in education as a result of the Civil Rights Movement and the responsibilities placed in the school to provide quality education.

The primary purpose of this document is to share with educators the range and variety of the concerns of the field and to stimulate positive approaches to combat these issues. Hence, a rather large number of issues are included ranging from developmental competency of students to the effective use of parents and senior citizens as volunteers.

With the onslaught of voluminous materials being published yearly, the reader will find that these *Proceedings* can serve as a helpful overview, providing variety and depth as well as an impetus for action. As a parent, teacher and federal official, I am concerned about increasing the literacy among children and adults of this nation. This document should be read with care and committment. Only through an honest committment to action can we begin to help our youth to move toward a more literate and healthier society for themselves and their children.

Sandra Trice Gray
Assistant Commissioner
United States Office of Education

PREFACE

Knowledge about communication skills is increasing constantly. Faculty members in Language Communications at the University of Pittsburgh have, over the years, continued to add to this increasing flow of knowledge. Sequentially, "Emphasis: Reading and Writing" and "Interchange: Issues for Action in Reading and Writing" were themes of the Thirtieth and Thirty-First Language Communications conferences held July 13-15, 1977 and June 19-21, 1978 at the University of Pittsburgh. The purposes of the conferences were twofold. First, faculty members as well as graduate students in Language Communications were provided with opportunities for involvement in generating, sharing and demonstrating their support for research, new ideas and exploration of old ideas in the Language Communications field. This support was partly evidenced through numerous invitations that were extended, to well-known local and national educators, for presenting major speeches and serving as workshop leaders' for the conferences. Invitations were accepted as these *Proceedings* testify. Second, an educational forum for teachers, administrators, parents and school volunteers was provided. Experienced reading and English educators in the field shared with participants classroom language arts practices and home practices in reading, writing, listening and speaking.

The first paper is by Rudine Sims. Sims probes questions and issues dealing with language structure in teaching reading, issues of dialect-specific materials, and language mismatch in the reading classroom. Dorothy Watson* supports the importance of using language in the teaching of reading as she offers practical miscue analysis suggestions to classroom teachers. Marion Rosecky also recognizes the importance of language patterns in a classroom. Additionally, she provides teachers with suggestions for encouraging students to respond to literature, use sustained silent reading and become involved in composing and writing during their classroom experiences. Donald Graves'* paper amplifies the notion of composing as he, in a very natural style, says to teachers, "We need to let them write."

The fifth paper is an interview with Earl Rankin.* In this interview, Rankin tells us "all we ever wanted to know about cloze, but were afraid to ask." Not only does he talk about cloze for instruction but cloze for testing as well. Wendell Rivers, on the other hand, discusses formal standardized tests. He postulates that some standardized instruments are neither effective nor efficient for measuring the educational abilities of many minority children during reading and test performance.

Using technology in classrooms/learning-environments is of great interest to many educators. Omar Moore deals with this subject in an unusual way in his paper. His main concern is to create a truly literate public. Also in agreement with this concept are F. Yvonne Hicks and

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* The two major papers by Graves and Watson, and the interview with Rankin are major presentations from the Thirtieth Annual Conference. Workshop abstracts from that conference were not available and, therefore, not included in these *Proceedings*. The remaining major papers and workshop abstracts appearing herein are from the Thirty-First Annual Conference.

Bettye Battiste. In a final paper, they have provided several helpful suggestions for parents to use during informal learning times with their children. Moreover, they do encourage parents to help their children to become literate by reading to them.

Abstracts from workshops are contained in the latter part of the *Proceedings*. The abstracts provide a "bird's eye" view of the contents of several workshops. Unfortunately, the on-going discussions among workshop participants and prepared classroom materials are cerebral by-products that will remain in the minds and hands of those who were fortunate enough to attend.

Acknowledgments for these *Proceedings* are respectfully given to Anthony Petrosky for securing manuscripts from the Thirtieth Annual Conference, Shirley A. Biggs for reading some of the manuscripts and making valuable suggestions and Diane Franz for painstakingly typing this document.

Alice M. Scales

Language Structure: Its Effect on Reading and Reading Instruction

Rudine Sims
University of Massachusetts
Amherst, MA

Introduction

Reading instruction cannot be disassociated from the view of the reading process that underlies it, nor from the instructor's views of learning and learners. Reading instruction is further influenced, in a broader sense, by current trends and issues in education in general, in related fields, and in the society at large. Whether these underlying theories and influences are explicit and articulated, or implicit and non-conscious, they determine the questions that are raised, the problems that are identified, and the sources that are plumbed for possible solutions.

I was asked to speak to you today about the effects of language structure in teaching reading, and further to address the issues of dialect-specific materials, and what is to be done about language mismatch in the reading classroom. The questions have been raised before, and the answers have been sought in research, but the underlying problem remains unsolved. What I want to suggest today is that, possibly because of some theoretical perspectives on learners, reading, language, and learning to read, we may have been led away from the most productive questions and consequently from the most useful solutions.

First, it is necessary to be perfectly clear about the learners with whom we are concerned. In the field of reading, "language structure" and "dialect" questions are generally raised only in connection with certain pupils and never in connection with others. While it is often pointed out that American English is rich in variety, the question of possible negative effects of language structure is generally asked only in relation to speakers of certain varieties of U.S. dialects. Regional dialects, with the possible exception of Appalachia, are not usually suspect. No one wonders in research reports whether children who "Pahk the cah in Hahvad yahd," will have trouble learning to read, or even in "decoding r sounds." Nor is there concern that the southern white "Y'all-come-back-now, y'heah?" speakers need dialect-specific materials. The learners about whom the question is raised are speakers of dialect varieties that mark them as members of particular social groups - often urban, usually lacking in material wealth, and either Black, Latino or Native American. (Because of my own interests, and because the bulk of the research has been with one group, my remarks shall be aimed most specifically at Black, urban readers, but I believe

the basic principles apply to all groups.)

What is there about these learners that cause people to raise questions about their language and reading? Basically, the problem is that, according to available measures, these children are not learning to read successfully. Time does not permit a thorough review of the history of the problem, but perhaps a bit of history will put the problem in perspective. Geneva Smitherman, in her recent book Talkin and Testifyin (1977) suggests that attention focused on the language of Blacks as a result of two major forces: (1) the social change movements of the sixties with the resultant release of Black energies, and (2) the society's attempts to deal with these energies through poverty programs, compensatory programs, and the like. The latter force resulted in descriptions of these learners as deficient, deprived, disadvantaged and different. Some of the psychologists who published such descriptions (Deutsch 1967, Bereiter & Engelmann 1966) characterized the cognitive and/or linguistic processes of these children as deficient, illogical and inadequate for academic purposes. Enter the linguists, who had always known that no group's language is inadequate for any cognitive function. The linguists, e.g. Bailey, (1969), Baratz & Shuy (1968), Labov (1972), helped us understand the systematic nature of Black dialect* and its salient syntactic and phonological features. Having established that Black vernacular* was indeed not a deficient language system, having established that it does differ in systematic ways from other U.S. dialects, and having ascertained that speakers of Black vernacular still often as not, were having trouble learning to read, some linguists, e.g. Stewart (1969), Wolfram (1969), posited that one possible cause of reading problems was the mismatch between language structures in children's speech, and language structures found in materials used for reading instruction. Hence the question, do language differences interfere with learning to read? (Note that in this question, the term "language differences" almost always refers to low prestige vernaculars.)

Reviews of research on the question of "dialect interference" generally conclude that the evidence is inconclusive, i.e. there has been no definitive proof one way or the other. It's likely that one reason the evidence is inconclusive is that different researchers have started with different views of reading and learning to read, and different views of what constitutes respectable research.

In the Broadway musical, "The Wiz," Dorothy and her friends are told by the Wiz of Oz, "It ain't enough to know where you're at, you got to know where you're comin' from." Depending on "where one is comin' from", in terms of a theory of the reading process, one is more or less likely to be willing to accept the evidence on one side or the other of the "dialect interference" question. My own personal view is that speaking a nonstandard dialect of English, in and of itself, does not interfere with learning to read standard English. That's where I'm at. Now let me tell you where I'm comin' from.

---

*The terms Black dialect and Black vernacular are used interchangeably. Their definitions are limited to a particular dialect/language structure in this paper and must not be interpreted to mean the many varieties of English dialects, both standard and nonstandard, spoken by Black people.

A View of Reading

First, an oversimplified view of reading. Reading is a receptive language process. Receptive language processes, reading and listening, require active construction of a message encoded in print or in sound. Readers use their stores of prior knowledge about the world, their knowledge of their language systems, and the graphic input to construct a message. A reader need not be able to orally produce the message in the exact form of the author in order to understand it. Deaf children, after all, do learn to read.

Reading is also an interactive process. It is not a linear processing letter by letter, word by word, ending in some cumulated meaning at the end of a sentence or passage. Readers use whatever cues are most useful at a given moment. It is, most importantly, a meaning getting process, and it is the search for meaning that guides the reader's interaction with print.

Given that view of reading, my stand on "dialect interference" should become clearer. One of the questions that has been raised concerns sound differences, e.g. isn't it going to be confusing if w-i-n, and w-i-n-d, or the infamous p-i-n and p-e-n sound alike in a reader's speech? People who have studied language and language variety never seriously asked that question. If sound/pronunciation differences made a difference in reading, many of us would have had difficulty learning to read. Sound differences are probably the strongest markers of regional dialects, but people don't seriously question whether Bostonians can learn to read with materials written by Chicagoans. People who do consider sound differences as possible causes of problems are usually doing one of two things: or comin' from one of two directions (1) treating reading as a productive process or a recoding process (i.e. get to the right sound and the meaning will take care of itself) or (2) reacting to pronunciations as social dialect markers.

So, my view of reading suggests that the question of pronunciation differences is a non-issue. Some sound differences, however, appear to be related to syntactic features, and another question that has been asked about possible "dialect interference" has been whether differences in surface syntactic structures "interfere" with learning to read. It was this question that led to the development and study of dialect-specific materials. Such materials generally were written or rewritten to reflect such features as the copula, e.g. *She working;* the unmarked third person singular, e.g. *John want a new car;* the unmarked past tense, e.g. *Mary walk home yesterday;* and the unmarked possessive, e.g. *John hat on the bed.* In all, there aren't listed more than about 15 or 20 such syntactic differences in even the most complete descriptions of Black dialect. This is an important point because it means that the differences between Black dialect and other English dialects are far smaller than the shared features.

Studies, such as Schaaf (1971), Sims (1972), Simons & Johnson (1974) & Liu (1974) comparing Black dialect speakers' reading of dialect-specific materials are needed to make learning to read easier for speakers of Black dialect. While some of the studies have been criticized because of small sample size or lack of comparable stories, or the exclusion of beginners or "non-readers", there are some arguments to support these findings.

For one thing, the selection of which syntactic features to

include, and the consistency with which they are included must be an arbitrary decision. Descriptions of Black dialect speakers' performance on sentence repetition tasks (Simon & Johnson 1974) and of samples of free speech (Mitchell-Kernan 1972) indicate great variability within speakers in the use of syntactic features indentifiable as Black dialect features. In sentence repetition tasks, for example, the percentage of Black dialect features in subject repetitions ranged from 20% to 30%. The point is that, given the variability within speakers, dialect-specific materials which reflect syntactic structures peculiar to a dialect may be no closer to individual speakers' language than standard materials.

It is also important to note that, in at least the Sims and Simons & Johnson studies, readers faced with dialect-specific materials often "translated" Black dialect features into standard English features. This "translation" seems to indicate a familiarity with, and possibly an expectation of standard English structures in written language. It has been suggested that this phenomena indicates only that the children in the studies already know how to read, and the results might differ given children who had learned to read with dialect-specific materials, or children who were having more difficulty learning in the first place. What it demonstrates to me is that speakers of Black dialect <u>can</u> learn to read using standard materials.

The third point related to the need for dialect-specific materials is that to suggest such a need seems to assume a lack of contact with other varieties of English, and therefore, an inability to understand them. It must be remembered that reading is a receptive process and does not require productive processing strategies. It must be further remembered that native speakers of U.S. English dialects share many more features with other U.S. English dialects than not. Speakers of low-prestige vernaculars have contact through mass media, and through consumer transactions, to name but two examples, with other varieties of U.S. English. There is no reason to assume that they cannot understand their native language in its written forms. Studies comparing comprehension of vernacular and standard dialect versions of stories and other texts (Cagney 1977, Copple and Suci 1974, Ramsey 1972) seem to support this contention.

Written/Spoken Language Mismatch

Written language, in any case, differs from anyone's spoken language. All readers must learn to cope with aspects of written language that distinguish it from speech. Given the structures of some beginning reading texts, however, it is reasonable to assume that the language structures in <u>them</u> are particularly divergent from anyone's spoken language, and may pose problems for any beginning readers, no matter what variety of English they speak.

So far, I have dismissed the notion that sound differences interfere with learning to read, and convinced myself, at least, that surface syntactic structures do not interfere, either. That leaves two other possible sources of interference: 1) lexical features and 2) differing underlying semantic structures. The question of lexical interference is seldom raised, possibly reflecting a view of reading as such an exact process that substitution of one item for another is

automatically considered "wrong" and to be corrected, or reflecting a view that "synonym" substitutions, e.g. "headlights" for "headlamps" are so clearly meaningful that no harm has been done, or reflecting a view that lexical differences do not carry such strong social stigma as syntactic ones.

The question of differing underlying semantic structures is more complex, and will not be dealt with adequately here. On the other hand, U.S. English dialects are generally, by definition, considered mutually intelligible, and by implication, considered to share underlying semantics: that is, differences are for the most part, surface level differences. We assume that the speaker who says "John hat" means the same thing as the one who says "John's hat", or that the person who says "Can't nobody do nothing in here" means the same as the person who says "No one can do anything in here." If such is the case the reader need only to somehow recognize that the two are equivalent in meaning, hence the need to understand language varieties other than one's own. On the other hand, there have been identified a very few structures, such as the finite be, e.g. *He be working*, that make differentiations that are not made syntactically in other U.S. English speech patterns. That is, *He be working*, means something different from *He is working*, which in Black vernacular is *He working*. Some linguists have traced these differences to the historical influences of African languages on the speech of U.S. Blacks. It would appear, however, that the task for non-prestigious vernacular speakers learning to read is to understand the written language equivalence for the same concepts, a task faced by most readers in some form or other.

The question of semantic processing is complex because constructing meaning is the driving force of the reading process, and that constructing of meaning is greatly influenced by factors other than the print. It appears, indeed, that a major aspect of semantic processing involves information not available in the print, but available in the situational context and in the mind of the reader.

What I've been asserting so far is that, concerning any vernacular of U.S. English, the structural differences between that vernacular and written English or other English dialects do not cause difficulty in learning to read English. The basic problem, that many speakers of non-prestigious vernaculars score low on reading achievement tests remains. What I want to suggest now is that the problem lies, neither in the language structure, nor in the mind of the reader, but in what I'll label broadly, aspects of the situational context.

The Situational Context

Dell Hymes (1972) said it in his introduction to Functions of Language in the Classroom: "What is crucial is not so much a better understanding of how language is structured, but a better understanding of how language is used; not so much what language is, as what language is for (p. xii), (emphasis mine). And again: "Everything depends not on the presence of variation in speech--there is always that--but on whether, and to what extent, difference is invested with social meaning" (p. xxv).

It is this investing of differences with social meaning that affects our classroom behaviors, and which may lead to classroom practices that, in the very least, do not develop reading proficiency to the extent possible in most children.

Some of you may be bracing yourselves for the inevitable "blame-it-on-the-teacher ploy." You expect to be told to change your attitudes and the whole problem will take care of itself. You can relax somewhat. Unfortunately, even given that attitudes are extremely difficult to change, the issue is more complex than that.

We cannot ignore, however, the studies which do indicate that many teachers and prospective teachers hold negative attitudes toward non-standard language speakers, and that the self-fulfilling prophecy phenomena may indeed be at work. Two reviews of language attitude studies, Harker and Beatty (1978) and Ford (1974), report evidence which supports that contention. Teachers presented with questionnaires, or audio or video tapes, in too many cases, rated non-white or low SES students lower than white or higher SES students in terms of the "goodness" of their speech, or worse, in terms of the expectations those teachers would have of these children's school achievement. These studies were particularly disheartening to me in cases in which the exact same content elicited lower ratings when presented by Black or Brown students or in non-standard language than when presented by whites or in standard language.

None of the studies reviewed in those two sources concerned reading instruction directly, and may seem tangential to our discussion. The point is, however, that reading instruction is an interaction between teacher and students, and does not take place in a vacuum. Negative attitudes towards language manifest their effects in the quality of that interaction and in the teachers' tolerance for deviance from what is considered "good" and "correct". The perception of speech patterns as "not correct", and of school as the place where one is to learn what is correct, plus the more subtle perception of what is "not correct" as also "not good" cause some teachers to focus on those surface forms as a place to start with developing children's language. As those forms occur in oral reading, these teachers take the opportunity to "correct" the forms, and thereby focus away from the important question in the reading process, is the reader getting meaning?

Which brings us to another aspect of the problem. It may be that in many cases, part of the reason non-prestigious vernacular speakers are having difficulty in reading is that the theory of the reading process that underlies instructional material and instructional strategies used with these children is not powerful enough to allow them (the children) to use what they already know to expand their language competence. To the extent that such programs focus on aspects of reading other than meaning, they can lead both teacher and pupil away from strategies that can operate across programs and across reading materials. This is particularly true if the instruction focuses, not only on less than meaningful units of language, and on less than interesting stories, but also insists on having this uninteresting material rendered orally in language which is not the children's. The view of reading underlying these programs suggests that the first step in learning to read is to learn letter-to-sound matching, and that, meaning, while important, comes later, i.e. you can't get the meaning until you can say the words. One problem is that many such programs do not take into account the different patterns of sound-letter matching that occur in different varieties of English (e.g. do m-e-r-r-y and m-a-r-r-y sound alike or different?) Another is that the concern in such programs is not on what language is for and how language is used, but on aspects of language itself. Reading

is for something. It is language in use.

How language is used in actual settings is a fruitful area of research, and may lead us more quickly to answers to the questions we've been asking. Early on, I made a reference to the idea that some research is considered, at one time or another, and by one field or another, to be more or less respectable than other research. Some disciplines which have influenced education, such as psychology, have a tradition of accepting as respectable only research that is experimental in design, that controls all possible variables, that uses large numbers of subjects, and that uses sophisticated statistical analyses. It is extremely difficult to study real language use in such controlled laboratory-type experiments, because as soon as one controls all the necessary variables, one has set up a contrived and unnatural use of language. When real people, especially children, use language in uncontrived settings, they do very interesting things that simply do not lend themselves to neat and orderly analyses and categorizations. As educators, we can benefit a great deal from studying language in its social contexts. We need to recognize that ethnographic research, which is currently becoming popular, may be an important and fruitful area of research with particular usefulness for us. We need to know more about how language functions in actual classroom settings. This seems particularly important in the case of non-prestigious vernacular speakers, especially if it is true that differences in language structure do not cause difficulty in learning to read, and that the answers may lie in the situational context.

A very promising study which both looked at what actually happened in real classrooms during reading instruction, and met the requirements of large numbers of statistical analysis of data is the one conducted by Ann McCormick Piestrup in Berkely in 1973. She observed fourteen first grade classrooms, and was able to define six teaching styles and to describe the teachers as either accomodating or interfering. Her six teaching styles were labeled according to emphasis: Vocabulary Approach, Decoding Approach, Standard Pronunciation Approach, White Liberal Approach, Black Artful Approach, and Interrupting Approach. She also tried to measure the dialect features in the children's speech and to compare those and reading achievement scores across groups. Her conclusions are important, and I'd like to quote just one paragraph here:

> The results suggest that the ways teachers communicate in the classroom are crucial to children's success in learning to read. Efforts to find deficits in children or to focus on their language differences may only confound the problems of negative teacher expectations and evade the problem of functional conflict between teachers and children, with different cultural backgrounds. Teachers can alienate children from learning by subtly rejecting their Black speech. They can discourage them by implying by tone, gesture, and even by silence that the children lack potential. Children, in turn, can show their resilience by engaging in verbal play and ritual insult apart from the teacher, or they can withdraw into a moody silence. Neither strategy helps them to learn to read (Piestrup 1973, p. 169-170).

What then, are implications to be drawn concerning the third question I was asked to address today--what is to be done about language mismatch in the reading classroom? My conclusions come from reviews of research, from classroom experiences, from my view of how the reading process operates, and from intuition.

Conclusions

First, it is necessary to understand as much as we can about the reading process and how it operates. Functionally, that means that reading and reading instruction must be comprehension-centered activities. Children's oral responses in reading situations, whether in oral reading or in related activities, must be judged in terms of their potential disruption of meaning, not in terms of the forms in which they are expressed. When the teacher asks for a sentence with w-i-n and the student says, "The win blew the hat off my friend head." (Piestrup, p. 63.), the task is not to make the child "pronounce the "d" in wind, but to clear up any confusion in meaning.

Secondly, it is necessary to understand the characteristics of the children's language so that potential meaning interference can be clarified, and so that meaningful responses can be accepted as such. The other side of that coin is that the teacher also needs to recognize when responses have little or nothing to do with language differences. It does no good for the children if a teacher attributes errors such as non-word responses to "dialect differences" and fails to deal with them, out of ignorance of the dialect, no matter how well-intentioned the teacher.

Third, once the children's language is understood, teachers need to respect and accept that language as valid and functionally communicative. Teachers have been told to "respect and accept different dialects" frequently enough in the past ten years that it has become a cliche. It may be useful, therefore, to try to translate "respect and accept" into some possible classroom behaviors. One positive behavior is to respond to the meaning of what children say, not the form in which they say it. An accepting response is not, "OK, but say it this way, not that way". Another accepting behavior is to record children's language as it is dictated, not in what someone considers a more appropriate form. Another is to praise work that excels in terms of content, even when the forms are not quite standard. A final suggestion is to value each child's participation by encouraging it and responding to it in terms of its value as a contribution to the task at hand.

One cannot be accepting of a language variety without being accepting of the culture of which it is a part. Probably the most successful of Piestrup's groups, in terms of reading achievement, was the Black Artful group. Their success was not simply because they were Black teachers dealing with Black children (all Black teachers were not Black Artful teachers), but because they recognized that the children's language differed from other English varieties, not only in structure, but in style, in the ways language is used in the children's non-school cultural settings, in the kinds of language skills that were valued by the children. These teachers could and did enter into the children's verbal play, and built it into their lessons. It is this capitalizing on where the children are "comin' from" that is the most promising aspect of learning better how to help them learn to read.

A word of caution here. Talk of accepting and respecting and engaging in verbal play sometimes leads teachers to a kind of laissez-faire, anything goes attitude. In the Piestrup study, the children of the group labeled White Liberal teachers had significantly lower reading scores than the Black Artful group, even though the teachers' classroom behaviors were somewhat similar. Both were accepting of children's language and of the children themselves; both encouraged children's participation and successfully involved children in the reading lessons. Both used features of the children's language in their own. The difference seemed to be that the so-called White Liberal teachers placed more emphasis on friendly communication than on learning how to read. The point is, of course, that love is not enough. Teachers need to believe that children can learn to read, set up the conditions under which it can happen, and expect the children to learn.

A brief word about setting up the right conditions for learning to read. In the final analysis, what we are about is expanding what children can functionally do with language, including written language. In this print-oriented society it is very likely that many children come to school reading something. That's one place to begin. Another is Bill Page's suggestions to find real problems for which written language is a solution, for example, how to invite Mr. X's class to see the new gerbils, or how to find out what's on TV tonight. But no matter where one starts, the teacher's job is to expand on what the children bring. In terms of written language, that means that reading classrooms should be filled with a variety of interesting and meaningful materials so that children can learn to use strategies they already know or new ones they learn to cope with on an ever increasing range of materials. Having a variety of materials available is also helpful in developing in both pupils and teachers respect for the richness of language variation to be found in written English.

Finally, I must go back to my beginning and reassert that reading instruction cannot be disassociated from the view of the reading process that underlies it, nor from the instructor's views of learning and the learners. The question of how to handle language differences in the reading classroom will ultimately have to be answered by individual teachers. It will be necessary for each teacher to find out where he or she is, but remember, "it ain't enough to know where you're at, you got to know where you're comin' from."

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Breaking the Barriers:
What Miscue Analysis Offers the Classroom Teacher

Dorothy J. Watson
University of Missouri
Columbia, MO

Psycholinguistics in Reading

Many of us, at one time or another, have been warned not to be blind followers; we have been told that even the most well-traveled path should be investigated. To illustrate the stupidity of blind acceptance, a teacher once told her students about a favorite childhood pastime, of holding a stick across the path of a flock of sheep as they passed through a gateway. Each sheep, in turn, jumped the stick. The fun (and point of the story) began when the stick was removed and the remaining sheep continued one-by-one to jump over the now nonexistent barrier. The story stuck with me and although the analogy may be an ambitious one, I think it is appropriate for those of us who are responsible for planning instructional programs.

As a classroom teacher I did my share of unnecessary jumping; to be specific, I accepted some notions about reading that were not founded in valid and reliable research. Not only did I jump those nonexistent barriers, but I felt that I was doing what I was hired to do; no one could deny that I was keeping my students busy and I certainly didn't have a spare moment for myself. Whether I knew it or not, I was blindly accepting someone else's model of reading, someone else's definition of reading, and someone else's instructional program. Somewhere along the way, the students and I got squeezed out.

Because of a willingness to leap before looking, I began to put into practice some activities that were based on beliefs that might now be called myths. Psycholinguistic research, using miscue analysis has helped classroom teachers differentiate between substance and shadow; it has brought us back to the real world.

Following are a half-dozen beliefs that psycholinguistic research has helped dispell.

Belief #1 One learns to read by mastering the smallest units of language (phonemes and graphemes) and progressing to larger and larger units. This "common sense belief" inevitably leads to a great deal of instruction in which the student spends time matching phoneme to grapheme, learning word families or phonograms, reading nonsense or near-nonsense material, spinning phonics wheels and recoding controlled vocabulary stories.

Belief #2 Reading is an accumulation of specified skills that can be arranged hierarchically. This "bookkeeping belief" prompts teachers to pore over huge wall charts provided by publishing companies and curriculum committees. The charts indicate the number of skills involved in reading, the grade at which each skill is to be acquired and a page number directing the teacher to activities in

the teacher's manual. The guide includes "reading readiness" activities, word attack skills to fit any situation, study skills including critical thinking activities for the advanced reader. The teacher keeps records, ticking off skill after skill until they are "acquired" and the student is "reading on grade level."

Belief #3 Reading is an exact process; the reader must recode word by word, line by line until the passage is completed. Belief in this leads to instruction that involves flashcard drill, looking up a prescribed list of words in the dictionary and more word attack exercises.

Belief #4 Reading is primarily a perceptual activity. This belief leads to auditory and visual discrimination testing and activities to correct faulty listening and looking. Time is devoted to eye movement training, tachistoscope activities, and perhaps even to daily balance-beam walking, all to eradicate perceptual problems.

Belief #5 Oral reading, as well as speaking and writing, should be in standard English. This prompts more auditory discrimination exercises, speech lessons, grammar drills and a great deal of on-the-spot correction.

Belief #6 Competence in language can be measured by observing public performance; that is, what you see is what you are. This supports the notion that testing tells it all, that an error count can indeed place readers into instructional groups.

These half dozen beliefs and more have been shaken by recent psycholinguistic research in which miscue analysis was the instrument used for examining and evaluating a reader's control over the cues of language. This new perspective on reading research is language-centered and meaning-focused in nature, and it embodies a new respect for language, the learner, and the teacher (Goodman, 1973).

Let us now examine each of these beliefs, attempting to label them as true or false, based on the information provided us by in-depth miscue analysis.

Belief #1 This common sense approach to reading implies that to read one progresses from the smallest unit of language to the largest. This would indicate that the smaller the unit of language the more concrete it is and the easier it is to handle. Which of the following units of language is smaller? Which is more abstract? Which provides the most information for the reader?

1. p
2. pud
3. pud - dle
4. puddle
5. the puddle of water
6. "After it rained this morning Mike and me played jump over the big puddle of water in the road in front of his house. Mike fell in. He'll be here later."

   (Dictated by Reynaldo to Mrs. Nunez)

Reading is getting ideas, not fragmented units of language that provide the reader with nothing but abstract nonsense. Edie can help

us understand this idea. Edie, a second-grade student, tries to read by doing what she has been taught to do, attend to small pieces of language. She is a dutiful student, and a poor reader. When Edie decides to make sense rather than sounds of her reading she becomes a good reader and a liberated student.

Edie told me that she was the best reader in her reading group and to prove it she was able to write out examples from the day's reading lesson:

ai	ow
main	cow
pain	plow
rain	wow
train	now

I asked Edie to read a story about a kitten who accidently took a picture of a black crow and won a photography contest. When Edie encounters the word upstairs, she pays close attention to the ai, ignores meanings, and produces the nonword, upstails.

upstails
He printed them upstairs in his darkroom.

When Edie first encounters the word crow she tried to use what she has just learned: results, a nonword, crou. In the end, Edie decides to make sense of her reading and produces the correct word.

crou
One picture showed a large black crow....

crou
We must send this picture of the crow to the contest.

Mr. Vine was excited when he saw the picture of the crow.

In another part of the story Edie attacks a word with all her skill of graphophonemic matching and produces nonsense. Again, Edie the language user, cannot allow this and she begins to use all the systems of the language available to her and makes sense of the passage.

said
"Who took it?" A Mr. Vine asked.

said Johns
"Our Kitten!" A the Jones children said.

The judges laughed. "Three cheers for Kitten Jones!" they said.

Then the first judge said, "This picture is worth a first prize. Kitten Jones shall receive this bell to wear."

The second judge said, "I give her this pretty round ball to play with."

The third judge said, "I give her this pretty bowl for her food."

Camera is an important concept in Edie's story and it appears in the text eight times. Each time she sees camera she uses graphophonemic matching and produces carmel. Finally she becomes so actively involved in the reading that she begins to construct meaning based on information provided by the author as well as information she provides from her own past experience.

"I'll get the camera now.

For a week Penny, Sue, and Jack took the little camera everywhere.

She left the camera on the grass.

Now she walked over to the camera. She thumped the camera with her white fur paw.

Sue came out just in time to see Kitten playing with the camera.

I found her with the camera.

It was more fun to play with than a camera!

When Edie read from the smallest unit to the largest she produced no words and nonsense (crou for crow; upstails for upstairs; jug for jungle; Jones for judge; and carmel for camera) words. When she realized that meaning was in her head and not in the black marks on the page she stopped goose-stepping through print and began the search for meaning.

Belief #2 Reading is an accumulation of hierarchically arranged skills. Research using miscue analysis shows us again and again that reading is a language process in which the reader samples print, predicts, confirms or rejects, corrects if necessary, and integrates the author's meaning with the meaning brought to the passage by the reader.

To understand this process we need to look at the language cues available to all readers, and then to see how readers use these cues in the reading process. Within language there are subsystems:

1) The graphophonemic system which is actually two subsystems--the language's graphemes (letters, punctuation marks, capital and lower case forms, italics, etc.) and the language's phonemic or sound system;
2) The grammatical system which cues the reader with word order, intonation and morphological forms, that is, with all the devices that signal structural meaning; and
3) The semantic system which has to do with the sense or meaning provided through the morpheme, the phrase, the clause, the sentence, and the passage.

It is important to remember that proficient, efficient readers have good control over all the systems of language. Occasionally, depending on context, one cueing system may momentarily become preeminently important, usually this is when a reader needs to confirm or reject a prediction. But in the real world of whole language and real language users, the subsystems of the language are not isolated and not used separately.

Keeping in mind what we have just said about the systems of language let's look at a model of reading, one developed by Yetta Goodman and Carolyn Burke, based on Kenneth Goodman's more extensive reading model (K.S. Goodman, 1970). Within the framework of the Goodman and Burke model (Y. Goodman and C. Burke, 1972) we see that readers bring their psycholinguistic background to the reading act. In other words, reading starts before the book is opened. Therefore, the more related information, the more success with print, the higher the motivation, the greater the edge the reader has in processing the author's message. The meeting between reader and author can lead to varying degrees of success or frustration, depending on what the reader and author bring to each other. The author too has a responsibility, that of expressing meaning in a way that allows the reader to actively participate with the concepts presented.

Within the reading process there is an organization that requires all readers (the beginner as well as the experienced reader) to use certain decoding strategies. These strategies are, in a sense, stored in the long-term memory of the reader, and are energized within the graphophonemic, syntactic and semantic subsystems of the language when

the reader interacts with print. Again, these strategies involve sampling from print, predicting, confirming, correcting, and integrating meaning. And again, these strategies are available to the accomplished reader as well as to the bungler, to the efficient reader as well as to the inefficient. The accomplished, efficient reader, however, has sufficiently mastered these strategies and consequently reads with confidence and ease; the inefficient bungler cannot take full advantage of the strategies, labors over the task, remains outside and uninvolved, usually failing to decode, that is, failing to get to meaning.

At the outset of the reading process, the reader scans the page by moving the eyes from left to right down the page, sampling from the available print. Perceptions are formed based on what is graphically cued and on what is expected. This notion will be discussed later.

The reader begins to predict on the basis of surface structure and on meaning that is provided by both the author and himself/herself.

Readers make predictions about specifics as well as generalities. They predict sequence of events, plot and theme. They predict subsequent syntactical structures and even subsequent graphic units and if they are proficient, efficient readers, they make the best predictions possible for the least amount of effort.

The reader confirms or rejects predictions. A proficient reader can recognize disruptive miscues by asking, "Does it make sense? Does it sound like language?" If the predictions are rejected the reader can either go back and gather more cues or can press on, alerted to additional contextual cues.

Finally the reader decodes, that is, the meaning the reader has brought to the passage is integrated with the author's meaning.

Belief #3 Reading is an exact process. A great deal of instructional time is spent on activities designed to convince students that reading is an exact word-by-word process and that graphophonemic matching (recoding) is reading. Psycholinguistic research shows us that reading is an inexact process; all readers make miscues.

In an instructional program in which readers are punished for making miscues and rewarded for their proficiency in graphophonemic matching and for their mastery of what has been identified as the subskills of reading, we are likely to find students such as Amy.

Amy, an eleven-year-old who made good grades on all her reading assignments, read a rather long story for me. The story was about a sheepdog named Peggy who was so devoted to duty that, rather than abandon her flock in the face of repeated and brutal coyote attacks nearly loses her life. Peggy's mate is killed, her master dies of an unidentified ailment, and Peggy herself is nearly shot when mistaken for a coyote. The story is poignant and exciting, and Amy did it justice in her oral reading performance. In fact she read with such feeling that my flagging interest in a story I had heard dozens of times was rekindled. On completion of the reading I dabbed my eyes, took the book from Amy, asked her to tell me everything she could remember about the story and settled back expecting to hear a comprehensive retelling of a well read story. To put it mildly, I was disappointed with Amy's first comment, "Wasn't there someone in the story named Peggy?" Her retelling went downhill from there; it was immediately evident that Amy was a recoder (she had all the skills

necessary to go from print to sound), but she was not a proficient decoder (she failed to reconstruct meaning). Amy had attended carefully to print, sounding out word after word, even giving the expected intonation at end punctuation, dashes and commas. Amy was the most polished recoder I have known, but the phenomenon, in perhaps less obvious and spectacular manifestations, is familiar to all of us.

How was Amy able to "read" a long, complex, well-written story without comprehending? How did it happen that Amy was allowed to progress through the grades without being found out as a pseudo-reader?

As strange as it may seem, Amy may have become a pseudo-reader by being a good student, that is, by doing what she was instructed to do. Amy was actually working on a model of reading that said get all the words and get them right. Amy made very few miscues, unfortunately she also made very little sense of what she read.

Tim, also age 11, was a recoder, but because he struggled (unlike the smooth performing Amy) with the sounding out process his teacher was aware of his difficulties.

gerly
g-all
ger+ly
ger+ly
g-g-ger
he cried
cried

.... untied the dogcart that generally carried.....

contad
con-t-t
con-ten

Rain could not wash him away and he was contented.

discomfortaly
cities

Men were shouting directions to his father and cries

gale of ice through his nose

...of many gulls added to the noise.

Tim was attempting to get through the passage word-by-word, working not with the sense of the story, but with the letters and sounds. A strange thing happens with such readers. Their strength (graphophonemic matching) is labeled their weakness. And their weakness (making sense of the passage) is ignored. Tim was trying to read words by sounding out. His "gales of ice through his nose" was an attempt to be done with a bad experience. This miscue does indicate something good and something not so good. "Gales of ice through his nose" does sound like language, unfortunately Tim is willing to forego meaning in order to match letters and sounds and to just finish the ordeal.

Tim doesn't need more exercises that will cause him to become even more word bound. He needs, rather, to become actively involved in the reading process. He needs never to be told to sound it out; he has done that quite well for five or six years. Perhaps a starting point

for Tim and Amy is to realize that it is okay to make miscues, that everyone does it, even the best readers. They both need to take a lesson from Edie who, after trying to play it safe, decided that what she and the author had to bring to each other should make sense; so, she became a risk taker and it paid off.

One last story, this time of an adult reader, may help us better understand the notion that reading is an inexact process in which everyone makes miscues. This is a simple, everyday incident about a middle-aged woman, who, in search of a powder room, walked through a door clearly marked "Power Room." Now this occurrence might be accepted as just another example of the sorry state of literacy in the country, and cause feelings of real pity for the poor woman who was seemingly unable to discriminate between "powder" and "power." There may, however, be second thoughts upon discovering that this incident actually occurred and that the reader in question was the late Dr. Mila Banton Smith, who delighted in telling this story on herself. Dr. Smith's story holds a message for the Tim's and Amy's and Edie's who may one day find themselves in her predicament. Will they take a chance, a risk that the sign says "Powder Room" then, realizing that they are wrong continue to look until they find what they seek? Or will they stand there patiently trying to sound out the words to perfection until it is too late (Watson & Stansell, 1977)?

Belief #4 Reading is primarily a perceptual activity. Psycholinguistic research tells us that for proficient readers the mind is the master of the eye, not the reverse. The eye is the tool that the brain uses in scanning, fixing on print, and selecting information. At all times the brain must tell the eye what to do. There must be the constant drive for meaning, achieved with the least amount of effort. Earlier we stated that at the beginning of the reading process the reader scans the page by moving the eye from left to right down the page, fixing on lines of print. Perceptions are formed, based on what is graphically cued and on what is expected. Consequently, the final perceptual image is a hybrid of what the reader expects and what he actually sees. When looking at the following, efficient readers sample just enough print to confirm their conceptual predictions, while inefficient readers allow the eye to dictate to the brain, thus impeding progress.

Belief #5 Reading is best when it is in standard English. This belief has to do with the productive aspects of the language arts (speaking and writing), as well as with oral reading. Miscue analysis gives us insight into what readers do who are influenced by a dialect other than the author's or by a language other than the one they are reading. Dialect miscues show that readers have receptive control

of the author's dialect and that readers can produce equivalent forms that are acceptable within their own dialect. The reader is processing for meaning rather than for recoding accuracy.

The following miscues involve phonological, syntactic and lexical switching on the part of the reader, all without loss of meaning:

in the
She dribbled milk into his mouth

the stomach stresh
His stomach was so full that his hide stretched

plum the
smooth over his ribs.

This South Texas reader whose first language is Spanish, received the surface structure information of the author, translated the meaning at deep structure level and produced for his listeners a surface structure of his own choice. In other words, the reader processed for meaning, not for recoding accuracy. Spanish influence is evidenced in this reader's in for into. In Spanish the suffix en is used for the English equivalents in, on, and into. The reader's substitution of the for his reflects Spanish grammar in which the parts of the body are never preceeded by the possessive pronoun, rather by noun markers such as the and a. Spanish phonology influenced the substitution of /sh/ for /k/ in stomach and the /sh/ for /ch/ in stretched. The reader's South Texas dialect provided him with the descriptive substitution plum over for smooth over. (Plum, as in, "I'm purt near, but not plum finished.")

Dr. Rudine Sims of the University of Massachusetts points out that all readers, not just speakers of a non-standard variety of English, must learn to accommodate to written language which by its very nature is not the same as oral language. Dr. Sims addresses herself to those who point out the differences between non-standard and standard English, and who believe these differences are significant enough to cause reading problems. In answering the proposal, Dr. Sims notes that there is no need for special materials (e.g. Baratz & Stewart Readers) to be written for non-standard English speakers. Following are miscues made by one reader.

Standard to Non-standard

Ollie pointed to Leroy

say
Ollie said, "Leroy, give me my sock."

Non-standard to Standard

Ollie say, "Boy, give me my sock."

...and it start to bleed.

...and the people...get mad.

The young reader above does some sophisticated dialect switching, using rules of her language to move from her own dialect to that of the author's, then using the author's rules to switch from non-standard to standard form. Dr. Sims concludes that a language processing act such as reading is too complex to be judged only on the basis of surface presentation (Sims 1976).

Belief #6 Competence in reading can be accurately measured by evaluating a public performance such as, the score made on a standardized test. It seems that standardized tests do tell us something:

1. How one group or one reader compares with other groups and other readers on that particular test,
2. How good the students are at test taking,
3. How close the psycholinguistic backgrounds of the students and the test makers are, and
4. How students handle fragments of language.

This is not enough. We need to know how readers are comprehending, that is, how they are relating what they know to what the author is offering them.

Standardized tests aside, we have many more informal and detrimental ways of convincing readers that they are incompetent. We even provide them with neat formulas such as the Five Finger Test.

"The Greasy Hand"

Readability Test

> The reader prereads a random selection of pages. When he or she encounters a word that is not understood, a finger is placed over that word. If all the fingers of one hand are used when (or before) the student finishes reading the page, 'that selection poses too many unknowns for ease and clarity of reading, and should be placed back on the shelf,' Ms. Morgan says (The Reading Letter, Vol. 1, No. 2, 1975).

Reading is too complex a process to be judged by surface performance only; let me remind you of Amy, the pseudo-reader. It's often the case that we misjudge the reader who stumbles through a passage, substituting and omitting words, seemingly wrenching syntax, but who concludes with, "I'm a lousy reader," takes a deep breath and then tells you everything about the story.

Another misleading measure of language processing ability has to do with the reception and production of language. Again, speakers of a variant form of English or speakers who are influenced by another language are often judged by superficial measures. Frank is a fourth-grade student who was characterized by one of his teachers, "Frank is a non-reader who really doesn't have a language. He doesn't speak English or Spanish. He talks with his friends, probably in TexMex which is ruining his language."

I asked Frank to read a story for me called "Sancho the Homesick Calf." After the reading I asked Frank to tell me about the story:

Me: Ahora quiero que me digas todo lo que te recuerdas de la historia pero quiro que me digas en español. ¿Me lo puedes decir en español?

Frank: Uh um (negative)

Me: ¿No sabes nada nada?

Frank: I know how to say some words but I can't...I can't say a sentence.

Me: O. K. Well, tell me what you can. O. K.? Or would it be very difficult for you?

Frank: Yeah.

Me: ¿Como comenzó la historia?

Frank: When John had gotten the calf. He found him.

Me: ¿Cómo...sabes, cómo te dices "calf" en español?

Frank: Uh uh (negative)

Me: ¿Sabe lo que voy hacer? Voy a preguntar unas preguntas en español. Y, si puedes, me las contestas en español. Si, puedes, si no puedas en español. O. K.?

Frank: O. K.

Me: ¿Te recuerdas quién y quién está en la historia?

Frank: (no response)

Me: ¿Como se llamaba el... la "calf" que está en la historia?

Frank: Sancho

Me: Y qué pasó a Sancho?

Frank: They kept him.

Me: ¿Cómo se llamaba...quién lo... who kept him?

Frank: Rosita and the man.

Me: ¿Cómo se llamaba el señor?

Frank: John

Me: ¿Qué tenía este Sancho? Qué le pasaba a Sancho?

Frank: I don't know.

Me: You don't remember? O. K., Frank.

Digame, ¿te recuerdas que clase de trabajo hacía el señor?

Frank: He was a rancher.

Bueno, Frank. I think that's going to be all for now. Thank you.

Psycholinguistic research has helped us break some barriers, it has given the educator information that can point the way to practices in teaching reading. In all of this, we are cautioned that there is no "psycholinguistic approach" to teaching reading; every reading program should be psychologically and linguistically sound, that is, the program should be built on the use of whole language and should view children as remarkable learners who are attempting to make sense of their world.

As teachers become more aware of psycholinguistic research, as they begin to change their model of reading, it is inevitable that they discard some practices, and begin searching for activities and procedures suitable to a reading program that is student-centered in nature, keeps language and thought intact and has comprehension as its focus.

One major concept which guides a meaning-centered program is that reading must be functional (Goodman & Goodman 1976). People read in order to make their world more understandable, sensible and ordered. A reading program based on this concept provides opportunities for students to read for purposes which are important to them. Children should not be expected to read nonsense, and if they meet it they should learn to reject it.

Let's turn our attention now to some classroom practices that reflect the understandings psycholinguistic research has provided us.

Classroom Practices

I. Reading to students daily must be a part of every reading program. When teachers encourage listeners to predict what will happen next in a story or to guess how a character might solve a problem, they are showing potential readers a variety of ways to become actively involved in gathering information from the writer. Students can tell what might have preceded or caused a certain event; they can create their own endings; and they can go beyond the story by adding another event or episode. Each day they might quickly summarize or recall what was or is important to them from yesterday's reading session. They can begin to understand the notion of plot by stating what they want to find out from the remainder of the story. Through such daily encounters students at all ages learn that reading is important (it must be--we do it everyday), functional (it answers my questions), varied in content, style and language (Shel Silverstein and Sharon Bell Mathis write different things in different ways), entertaining (some people prefer it to TV!), and worth the effort (we'll do it again).

II. Student as author must be part of a meaning-centered program. When the author and the reader are the same person, the psycholinguistic gap between encoder and decoder is bridged, and the finished product is happily suitable and appropriate.

Student as author implies activities such as writing captions for

bulletin boards, notes and letters; scribbling on a graffiti board, writing material for younger children, keeping diaries and writing language experience stories. Perhaps a word concerning language experience activities is appropriate here. This approach to reading is immediate, relevant, powerful, psycholinguistically sound, exciting, but also difficult, time consuming, and often discouraging. Those who have worked with language experience activities know that all this and more can be said about the venture. Teachers, it seems, have gotten over problems of accepting the language of the writer. The problems now seem to lie in providing stimulus for language experience stories. After writing about holiday turkeys, ghosts, rabbits, cupids and tinsel where do we turn for those experiences that will lend themselves to group writing? It is important that teachers ask their students to write about worthwhile and interesting activities.

When teachers or aides become the scribe for individual authors the result can be gratifying for both the student and the teacher. These writings, with the permission of the author, can be used for small group activities: ask questions about what a student wrote, use the material for cloze activities, illustrate the story, or write a sequel to it.

III. Individualized reading--lots of reading silently, and in a variety of materials is a distinguishing characteristic of a whole-language, meaning-focused, student-centered, reading program.

In an individualized program, time is scheduled for students to read silently every day. To promote independent reading, students are encouraged to draw on their own experiences and to use their own knowledge of language to become more proficient readers.

A characteristic of an individualized reading program is that the reading material is reader-selected. Students should be allowed to choose their own fare, but teachers have a responsibility too, of encouraging readers to try different materials with a variety of literary forms. To promote this idea it is useful for readers to have three books in progress at once. Using a selection system called Mine, Yours, Ours, will provide variety. This procedure allows both the student and the teacher a voice in selecting reading material. The student's choice, made without adult interference, is the Mine part of the procedure. Mine is usually material that meets a personal need, e.g., to be entertained, to find out something, or to gain status. The Yours selection is made by the teacher and is material that the teacher believes will help the reader expand interests and develop reading strategies. The third selection, Ours, takes some doing, but is usually the most worthwhile as it is the selection that is carefully examined, mulled over and finally mutually agreed on by the reader and the teacher. Lists such as the ones developed by the Children's Book Council and the International Reading Association (see "Classroom Choices: 1974 Children's Trade Books" in The Reading Teacher, November, 1975 and "Classroom Choices: 1975 Children's Trade Books" in The Reading Teacher, 1976) and recommendations by librarians can help the teacher and the student find appropriate reading material. It goes without saying that the teacher must be familiar with the rich and growing body of literature for children and young people if such a program is to be effective.

IV. Reading Strategy Instruction is a major component of a whole-language, meaning-focused program. Proficient readers know intuitively that predicting and confirming are necessary reading strategies. While reading they constantly answer questions: "What will happen next?" (predicting) and "Does it make sense?" (confirming). Poor readers use strategies that are analogous to the reading process. The Reading Miscue Inventory (RMI) (Goodman and Burke, 1970) will help the teacher zero in on a reader's strengths and weaknesses. Because of the time involved in administering the RMI I would recommend that teachers give it to those students they have real doubts about, the question marks, the ones whose reading problems are not immediately apparent. The RMI provides a view of a student's reading performance that is very different from the ones provided by the traditional standardized reading tests or by informal reading inventories. During the RMI procedure, students read an entire story and their miscues (oral responses which differ from the expected response) are marked. Students receive no external help during the reading; they must rely on their own, not their teacher's strategies. The miscues are then evaluated to see if the students are making appropriate use of syntactic and semantic information, as well as to determine what relationship they are making between letters and sounds. Additionally, miscues are evaluated to determine if they enhance the author's message and facilitate the reading process or if they are changing meaning and disrupting the process. By using the RMI to study the reading performance, teachers become aware that students often have more sophisticated knowledge of syntax and a greater awareness of the relationship between sounds and letters than other tests indicate. More importantly, the RMI provides the teacher with information about causation and quality. A teacher no longer needs to depend on an error count (Goodman and Watson, 1977).

Another method of securing first hand information from readers is to ask them to log the miscues that they have had trouble with during their silent reading time. Instead of asking for help the reader inserts a bookmark at every trouble spot and continues reading. At the close of the reading session the student selects one or two marked trouble spots and writes on the bookmark or in a log the sentence or sentences in which the problems occurred. The problem area should be underlined. At the end of the time set aside for this activity, the teacher collects and categorizes these self-selected miscues and from these, reading strategy lessons are developed. Such sessions are usually applicable to the problems faced by several students in class and can be conducted in common-need instructional groups.

The following information was obtained from one group of fifth-grade readers.

Manfred von Richtoven was born in Silesia.

Flying Aces of World War I

It is called the valkyrie.

B-70 Monarch of the Skies

The largest of the jellyfish is Cyanea Capillata, sometimes called "lion's mane," or "sea blubber," for it looks like a huge upside-down floating saucer.

Monsters of the Sea

What would Marta think when she heard their mocking, "Ach, der Liebling!"

Heidi's Children

Miss Munchin says that her father was a distinguished Indian officer and she would be heiress to a great fortune.

Sara Crewe

But to continue my story you see I'd not finished yet when we arrived at the Prenungracht.

The Diary of Anne Frank

Lavenia, get on with your spinning.

The American Girl Book of Horse Stories

Naming strategy lessons were developed for these students who were stumped on pronunciation of names and labels. In such lessons a story (see following passage from The Great Brain) with an unfamiliar label or name is used. Students are asked to read the passage silently without concern for the pronunciation of the unknown name. Through discussion, the children come to realize that it is more important to determine what clues are available that can help them understand the character or nature of the person or place being described, than it is to focus on how the name is pronounced.

> It was right after Abie Glassman opened his Adenville Variety Store that Vassillios Kokovinis arrived in town with his mother. He was the first genuine immigrant boy that we had ever seen. His father, George Kokovinis, had come to this country five years before, leaving Mrs. Kokovinis and Vassillios behind in Greece. During those five years Mr. Kokovinis has worked in the coal mines at Castle Rock and saved his money. Then he had come to Adenville and opened the Palace Cafe and sent for his wife and son. He had learned to speak pretty good English during this time, but his wife and son couldn't speak one word of English when they arrived in Adenville.
>
> From: The Great Brain
> by John D. Fitzgerald

Stories for strategy lessons may be written by the teacher or selected from materials containing concepts and context that provide a conceptual basis and the linguistic support needed to develop a particular strategy.

The following exercises are for students who need to know that if a concept is of particular importance, the author will continue to provide information. The reader needs to remain involved in the reading process as he copes with an unknown concept. He does this by supplying a place holder, predicting what the concept is, rejecting or confirming the predictions, and continuing to read.

Her next errand was at the Square Toe City _____ Studio. She crossed the sidewalk and opened the door of the _____ studio.

Inside, Miss Pickerell put the gilt picture frame on a desk in the corner and closed the door behind her. A little bell attached to the top of the door tinkled, but for a moment there was no other sound.

This was the _____'s office, a small room with a number of pictures mounted on the wall. A curtained doorway separated the office from the _____'s working quarters. Miss Pickerell could smell the faint stinging smell of the chemicals the _____ used in his darkroom.

With a sudden swish, the curtain across the doorway was pushed aside, and the _____ appeared. He had gray hair and wore glasses.

"Good gracious!" he said, as he went around behind the desk. "It's Miss Pickerell! Was there something wrong with the picture I took of your cow last week?" the _____ asked.

From Miss Pickerell Goes Undersea
By Ellen MacGregor

Children had trouble with Sampan in the first chapter of The House of Sixty Fathers. When the word was deleted the readers began to make substitutions based on information they and the author provided each other.

Rain on the Sampan

Rain raised the river. Rain beat down on the _____ where it lay in a long row of _____ tied to the riverbank. ...clattered hard on the four long oars lying on top of the

room of mats... Thick drops of water dripped through the bullet hole onto the neck of the family pig, sleeping on the floor of the _____.

...Rain raised the river. The _____ swayed and bobbed on the rising water. Voices drifted from the other _____ in the long row of _____ and muttered among the drumming rain.

...Tien Pao and his father and mother had pushed the _____ on and on against the currents of the endless rivers.

...The villagers had run...to the river and the _____. They had crowded into the _____, they had shoved them madly into the river.

...Over the river the planes had burst out of the clouds, had hurtled themselves at the crowded _____.

...Back and back the planes had come with their hail of bullets, while _____ sank and went under. Back and back until there was but one empty _____ left drifting on the water.

...Then Tien Pao's father had run to the back of the _____ and had grabbed the oars.

From The House of Sixty Fathers
By Meindert DeVong

For students who feel that they have nothing to bring to the reading act, and will not take a chance on providing information from their own cognitive and linguistic experience the cloze procedure encourages interaction with the author. For the severely word bound reader, the omitted units must be highly predictable. The following exercise is an example.

CURIOUS GEORGE

George was a little monkey who was very curious. He was curious about everything that he saw.

It's all right for monkeys to be curious. That's the way

they learn. But George was too _____.

He was so curious that he sometimes got into _____.

George's home was in a big _____.

One day as he sat in the tree, he saw something new and strange. It was a man with a big yellow hat.

George was very curious about that _____. He looked and looked at it. The man with the _____ looked at George.

"That monkey is curious about my hat," thought the man. "I'd like to have him. I'll play a trick on him and get him to come down from that _____."

The man sat down and took off his _____. In a little while he put it on again. Then he took off the hat and put it down where Curious _____ could get it....

"Curious George" was taken from Come Along, Houghton Mifflin Company, 1957, Second Grade Reader.

Readers often have trouble getting into a passage. This short story helps students understand the necessity of immediate involvement with a story. It also introduces them to a mid-stream switching technique that many authors use.

A DAY AT THE ZOO

The day was bright and sunny--a good day to be at the zoo. Many animal sounds and shouts of laughter filled the air.

"Look at that funny fellow!" said Ambrose.

"Throw him a peanut, quick, before he turns away!" cried Judy.

"Oh, he caught it and is going to throw it back! Clever fellow. Sometimes they seem fairly bright, don't they?"

"He's scratching his head! They always scratch their

heads. Maybe they think it makes them look wise, but they're probably looking for fleas."

"It's feeding time! First one down is a rotten monkey!" Ambrose shouted as he swung himself deftly down from the top of the cage to the floor.

"Oh Ambrose, wait for me," cried Judy. Visitors' day at the zoo gives me such an appetite."

by Charlotte Hazelwood
Teacher

Reading instruction must be student-centered, must keep language and thought intact, and must begin and end with meaning. If a program is based on these tenets, students will realize that reading is a means to an end, not an end in itself; it will entertain, inform, and in some way meet their needs, here and now.

A reading program that focuses on comprehension will make available a world of materials with all kinds of messages in them. Such programs will not tolerate artificial reading activities that frustrate readers and destroy the reading process. It will allow plenty of time for the reader and author to come together by way of written language.

The key to such a program is a teacher who understands language and language learning, who knows children's and adolescent's literature, and who is willing to work creatively and diligently at organizing and integrating a reading program that has done away with expecting teachers and students to expend their time and energy on jumping nonexistent barriers.

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THE PENNSYLVANIA COMPREHENSIVE READING/COMMUNICATION ARTS PLAN: A BALANCED PERSPECTIVE

Marion Rosecky
Downtowningtown Area School District
Downtowningtown, PA

The Problem

A major goal of reading instruction in our country has been to help our students become not only competent readers but lifetime readers. The fact that we have not attained this goal is apparent in the unacceptable number of illiterates who graduate from high school and in the research on adult readership which indicates that only a small percentage of our adult population choose to read books during their spare time. Sharon's (1973-1974) survey of the reading habits of five thousand adults, found that only half of these adults read during their free time for an average of seven minutes per day. One-third of these adults read books at work for an average of forty-seven minutes per day and only two percent read books such as mystery, history, hobby or reference. These findings would suggest that most people read frequently during daily activities for functional purposes, but do not spend very much time reading books during their free time.

This same trend is evident as early as the seventh grade. One comprehensive study of one thousand seventh grade students (Hughes and Willis 1965) found that only fifty-six students, or six percent, were "extended readers," ones who had acquired the habit of using reading as an integral part of their lives.

We also have a highly publicized problem in helping our students become competent writers. According to Dr. Donald Graves (1978), who recently completed a year's study on the status of writing for the Ford Foundation:

> The problem with writing is not poor spelling, punctuation, grammar and handwriting. The problem with writing is no writing. Reading has been over-stressed, often at the expense of writing. Even more serious is our growing insistence that students be solely proficient in receiving information, rather than in sending it (p. 636, emphasis mine).

However, Dr. Graves further stated that when people were asked how to solve this problem, what emerged from their suggestions was a view of writing as a form of etiquette and as a means for punishment rather than as a craft or an important form of personal communication.

The problem is even more critical when we realize that to be literate is, in Dr. Daniel Fader's (1976) words, "to know the self-

possession that written language gives" and that to be illiterate implies a loss of self. He states:

> We must begin by disposing of the twin myths of our students' predisposition toward literacy and our own ability to teach literacy effectively to a class of 35 students, whether or not that class is multiplied by five such groups in one day. Once we are impelled by the sense of loss of self that loss of the past implies, once we understand the full poverty of the imagination that afflicts those who have no need to supply their own images to complete the television experience . . . then perhaps we will be brave enough or wise enough to seek the help we need, to ensure that our students survive a changing culture in possession of themselves.

The Pennsylvania Comprehensive Reading/Communication Arts Plan

The Pennsylvania Comprehensive Reading/Communication Arts Plan (PCRP) is a plan for language arts instruction that intends to help us with this problem. The author of the plan, Dr. Morton Botel, of the University of Pennsylvania, based this framework on a model of health, rather than a deficiency or disease model, often used in education. He built on the common features of the learning experiences of those who became effective readers and writers, as reported in research, and called such experiences - the four critical experiences. These provide the curriculum for language arts. They are appropriate for all students in all grades.

Also included in this plan is an evaluation design that suggests a cost-effective, reliable management system for monitoring student progress and determining student achievement, not only in student competencies in language arts, but in nurturing positive attitudes toward reading and the effective use of language.

The Four Critical Experiences

What are the four critical experiences and what are some ways they have been implemented in classrooms?

The four critical experiences are: (1) Responding to Literature, (2) Sustained Silent Reading of Self-Selected Books, (3) Composing (Oral and Written), (4) Investigating and Mastering Language Patterns (Sound/Spelling, Syntax, Meanings). A discussion of each experience follows.

Critical Experience One: Responding to Literature

First in the plan, because it corresponds to the natural history of child development, is Responding to Literature.

> Once upon a time there was a very old man and a very old woman. They lived in a nice clean house which had flowers all around it, except where the door was. But they couldn't be happy because they were so very lonely. "If we only had a cat!" sighed the very old woman (p. 1).

So begins the story Millions of Cats by Wanda Gag (1928), which was one of my very favorite books when I was a child. From there I went to fairy tales and other fanciful literature, spent an appalling amount of time on Nancy Drew and gothics, and stablized somewhere in my adult years on mysteries. Can you remember some of your favorites when you were a child? Do you still read for pleasure as an adult?

Pleasurable experiences with books from an early age and a literate environment in the home are the factors that contribute to a lifelong reading habit as well as good reading ability. These are characteristics also common to "natural readers," those children who come to first grade already able to read (Forester 1977). According to Aiden Chambers (1975), a literate environment is a place "where books are thought important, are frequently used, often discussed, and everywhere in evidence". The modeling role of the parents, who are seen reading by the child, should not be underestimated in shaping the child's attitude toward reading.

> Of all the forces at work on children, attracting them to or repelling them from the printed word, and there are many, the attitude of adults they meet frequently in their daily lives, ... wields an effect surpassed only by the attitude of children's intimate peers (Chambers, p. 3).

If a literate environment is considered essential to helping children become good readers, and if there are many children who come to school without such a background, what does this imply for the teaching of reading in our schools?

It implies two things: first, schools should concern themselves with providing a literate environment, and second, they should help parents to provide a literate environment. This means that a school implementing PCRP should have a parent component.

The Pennsylvania Plan encourages us to elicit student responses to literature from four cognitive perspectives: (1) Engagement - involvement (also called personal response or creative) "How does it relate to my life?" (2) Literal - "What does it say?" (3) Interpretive - "What does it mean?" (4) Evaluative - "How good is it?"

However, most of the research that describes the teacher guidebooks in reading or literature, such as basals as well as teaching practices, shows that one kind of emphasis is being used in questioning students. In general, a literal, right-

answers emphasis is both prescribed and used in the early elementary years and in the higher grades, an interpretive emphasis dominates response discussions. This is done at the expense of providing opportunities for many patterns of response that involve more engagement and evaluative types of responses.

In my own research, I found such a pattern prescribed in six basal series (Rosecky 1976). Out of approximately two thousand questions listed for discussion with literature, fifty to sixty percent, across series, were literal. Twenty to thirty percent were interpretive, ten to thirty percent were experiential and, astonishingly enough, only six out of 2000 questions were evaluative! Another depressing finding in this same study, was that one-third of the questions asked about details related to the action of the story, but not in relation to developing understanding of plot, theme, characterization or setting. Rather, the questions seemed to focus on having the students remember small details for their own sake, a kind of testing emphasis, which is totally inappropriate for use with literature.

I also found that this approach to the literature had the same emphasis on details about content, rather than a more appropriate concern with form and story enjoyment.

One of the suggested activities in responding to literature is story interpretation. This can be accomplished with informal dramatization, puppetry, choral reading, art, mime and other interpretive forms. All of these activities are interactions of the four cognitive perspectives. Research findings indicate that these are extremely valuable activities to use in responding to literature because they have significant effects on students' reading ability and language ability (Robinson and Burrows 1974).

Where do we find these activities in basal guidebooks? In Step Five of the "Directed Reading Activity", Follow-up and Enrichment. As it turns out, the problem with Step Five is that teachers rarely get that far in the suggested lesson plan. In a recent survey of sixty teachers who were asked what parts of the directed reading activity they did not use and why, a large majority stated that they omitted Step Five because of a "lack of time" (Rosecky 1978). On the other hand, these same teachers stated that they did not omit the Discussion Step (and sometimes there are as many as seventy-five questions in a primary story!) nor did they omit the skills sheets (usually known as Step Four, Guided Skill Development).

Perhaps we need to reconsider how we are spending the time we have available to us. Isn't there a need for a better balance in instruction?

Implementing Critical Experience One

There have been a number of ways that we have used technical assistance to better implement this experience. We have had workshops where we take sample basal guidebook lessons and learn to use them in a way that corresponds to the PCRP framework. In essence, we learn how to pick appropriate approach and response questions and

activities from the many that are suggested, as well as to provide our own. We have had workshops on informal dramatization procedures, on small group process, on reading comprehension using the four cognitive perspectives, on puppetry and on children's literature. We have also had a workshop on teacher expectation and student achievement correlations, especially in the area of reading groups.

Critical Experience Two: Sustained Silent Reading of Self-Selected Books

Sustained Silent Reading (SSR) has been around for some time. This experience provides the needed practice that we can no longer assume our students do independently. What's critical about this critical experience is that the teacher reads. Again, the impact of the adult as a model influences students far more than a thousand speeches about the importance of reading.

The PCRP provides a seven step plan to implement SSR at any grade level. One of the most effective ways to use SSR is school-wide, but your biggest problem may be to get the school secretary not to answer the phone. I know of one principal, who, when she wants to finish an especially good book, prowls the school corridors in search of a class engaged in SSR and joins them.

Implementing Critical Experience Two

As an activity, this may be the easiest experience to implement, but classroom libraries must be substantial enough to provide the variety of material needed. There are a number of ways to increase classroom libraries. Fortunately, not all of them cost money. We have tried some of the following:

1. Classroom and school-wide book exchange;
2. Commerical Book Fairs, often run by parent groups;
3. Title IV-B Funds;
4. Reading is Fundamental (RIF) - matching funds; (When students get their own copies, many contribute them to classroom libraries or swap them.)
5. Donations by parents;
6. A very persistent haunting of Saturday garage and attic sales; (One librarian has purchased over one-thousand books in the last three years, paying on the average, one to three cents per book.)
7. Circulating collections of books from the school library;
8. Donation of a book to celebrate a student's birthday, with an inscribed name plate; and
9. Books, written, illustrated and published by your own students.

A few of the ways that technical assistance has helped us in implementing this experience are by:

1. Combining sustained reading, sustained writing and sustained talking into one experience. This can be done effectively at any level when the time is kept short, such as three minutes for each activity;
2. Encouraging sharing by teacher and pupils after sustained silent reading. Sometimes, all that is needed, is for the teacher to set the example by talking about his or her book. Most students are fascinated with what the teacher is reading; and

3. Using a suffusion of books and materials to encourage secondary students to read.

Critical Experience Three: Composing: Oral and Written

Composing, the other dimension of literacy, has a primary place among the four critical experiences as a means for learning to read as well as the means for oral and written expression.

We've heard a great deal about our students' lack of competency in writing, but what is it like where students are writing?

According to Dr. Graves' (1978) report on the status of writing, there appear to be several characteristics common to teachers where writing is in evidence:

1. These teachers have an 'artisan's view of the world with high standards of craftsmanship. These teachers also know their students' interests, learning foibles and personal struggles.
2. These teachers encourage many forms of expression, not only writing, but drama, storytelling and crafts of all kinds.
3. These teachers provide other audiences for their students. Students write for each other and publish for wider audiences.
4. These teachers provide time for writing.
5. These teachers first response to student writings is to content. Rewriting comes first at the point of information, rather than language conventions.
6. The concept of redrafting is done throughout the curriculum.
7. Writing occurs in a community, a factor which seems to have the most to do with standards of excellence (pp. 638-640).

Though the PCRP suggests two activities in this experience, we have added a third one in order to accommodate several different focuses for instruction. First, is "Sustained Writing," similar to "Sustained Silent Reading," which provides the needed practice of writing. Both teacher and students can write for a sustained period of time in journals in response to their reading or their other experiences. These writings can be shared on a voluntary basis, but they are not graded or corrected.

A second activity is "Language and Experience, i.e., shaping experience through language. The focus is on developing content. The form can vary from expository to narrative and poetry.

A third activity is "Guided Structured Writing." Here, the focus is on conventions of language, on saying it well, on form.

Implementing Critical Experience Three

In our district, we have found few major problems with sustained writing, once it has been implemented. For the most part, students find it habit-forming and where it is not working, it is usually because the teacher is not convinced that this is a worthwhile activity. Sustained writing has been used by a music teacher in one elementary school while the students listen to music; this is an excellent way to get students to build images. In another school on a recent camping trip, the sixth grade students were comfortable enough with sustained writing to try it for forty-five minutes by a wooded stream. The results were quite grat-

ifying for both teachers and students.

Many of our primary grades have tried publishing their books for class and library use and found that the students did not want to do anything else. Though the early drafts and book covers required a great deal of time, the students were anxious to write as many books as possible. After realizing that they could keep their first book, the students were willing to "donate" other books that they wrote to various classrooms for their sustained silent reading activity.

Next year we hope to initiate a Young Authors' Conference and to involve some of the higher grades.

Technical assistance has provided us with help in several areas. The areas are: using conferences to help students develop content, exploiting the teacher as writer, learning about publishing, linking theory and research in composing, and getting started with instructional activities.

At this point, it is important to mention that the first three critical experiences differ from the fourth one in these ways: they provide for experiencing language whole and they can be used with heterogeneous groups.

Critical Experience Four: Investigating and Mastering Language Patterns: Sound/Spelling, Syntax and Meanings

According to research, we need to understand and provide three things if students are to gain the most out of this experience. The first is that students should be placed at their appropriate instructional level in textual, non-fiction materials. This can usually be effectively accomplished by the use of curriculum-related tests.

Second, both associative learning and investigations (problem-solving) as a way of learning, should be used. Associative learning is learning from being told with practice and drill. Here, we rely heavily on rote memory and repetition. Investigations are searches for patterns. Students are given some information that they can understand, they manipulate and investigate this information to find patterns. If the skill development materials used, do not provide adequately for investigative learning, it may be necessary for the teacher to provide these kinds of activities.

A third need in this critical experience is that reading/study skills should be taught by content teachers in the content areas. We cannot assume that students at any one grade level can independently use a unified study procedure in the same way that we could not assume that all students could learn decoding strategies incidentally.

The same four cognitive perspectives apply here with textual and consumer materials with one exception. Literal response, as used with literature in the first critical experience, becomes formal perception. Such sub-skills as identifying, relating and remembering the key vocabulary, main ideas, details and sequences are used to help students learn to search for structure and meaning. When using a parallel search in textbooks, some variation of the study procedure, SQ4R, can be very effective.

There have been two areas that I have concentrated on when providing workshops on this critical experience. First, we need to understand the very clear distinctions that should be made in comprehension skill development when using fiction (critical experience one) and when using non-fiction or factual material (critical experience four). Skill

development procedures should be appropriate to the nature and function of the kind of material used. For instance, as Kahn (1978) has described these distinctions:

> The essential qualities of factual material,...are that it is usually written to appeal to our intellect or reason and its content is more important than its form. ... The essential qualities of fictional material... are that it is usually written to appeal to all of our faculties - to our emotions, senses, imagination, and intuition, as well as to our intellect, and its form is designed to contribute as much as its content to its total meaning and effect.

In these workshops, then, we work with different kinds of material, we learn how these approaches differ, the responses differ and how important the placement and timing of questions can change a student's grasp of the material.

Another way to help teachers in this critical experience is to take some of the findings from research on spelling and psycholinguistics and apply them to our classrooms using the materials at hand. For instance, we know that spelling taught in correlation with other language arts is generally more effective. We learn how to use writing, reading and listening activities to teach spelling. Also, we know that one of the greatest difficulties for many students in the primary grades is getting at the insight of the sound-symbol relationship, which is already known at a preconscious level. We know that phonic principles need to be taught in a systematic way and that the system should be taught in meaningful contexts. We learn how to do this by using such things as investigative learning at the syllable level, cloze activities and children's natural affinity for oral lore and word play.

Evaluation Measures in the PCRP

Three main areas of evaluation are described in this plan as well as the LAMPS (L = language, A = affect, M = meaning, P = perception, S = study skills) criteria, useful for evaluating a single lesson.

Standardized tests and curriculum-related tests can be used to monitor student progress in Critical Experience Four. PCRP makes a number of suggestions for effective, reliable use of these tests.

Informal appraisals such as book circulation records, student attitude scales, folders on students with dated samples of writing for measuring growth in quantity and quality of writing, study habit inventories and audio or video tapes of students responding to literature and/or having problem-solving discussions for measuring improvement in verbal interaction.

The Teacher Feedback Inventory for periodic reporting on teacher progress in implementing the four critical experiences, can be an effective tool for evaluation and development of curriculum when it is used as part of a staff development program with administrative support.

District Implementation

After having some exposure to PCRP, teachers in our district met in small-group sessions to discuss some or all of the following points:

1. The more balanced and thereby genuinely accountable program the PCRP provides;
2. Where the presently used curriculum materials fit in;
3. The fact that basal materials are not the total reading program;
4. How the four cognitive perspectives can provide for a balanced response;
5. Distinctions between Critical Experience One and Critical Experience Four in the nature of the materials and in the nature of comprehension skill development;
6. Distinctions between associative learning and investigations; and
7. Which problems are urgent in using and understanding PCRP in terms of materials needed, technical assistance needed and whether there is a balance in time spent for instruction across all experiences.

For this last discussion, we used the Needs Assessment form. Since so many teachers are already doing so many of the things described in the PCRP, we have found it best to start with what they are already doing and move to making plans on what is needed to make our instruction more effective.

In surveying one group of one hundred teachers recently, some interesting patterns emerged. A large majority of teachers spent the least amount of time in the fourth activity in Critical Experience One - Interpretive. However, an even larger number of these same teachers said they wanted technical assistance with that activity, so we found that we could immediately proceed with the kind of assistance that potentially could help them.

We also found that the greatest area of need in materials was for paperback books. Though many of us may assume that there are lots of books in rooms, a closer look may reveal that the amount and variety of needed books are lacking in many classroom libraries.

Can the PCRP Make a Difference?

Yes, I feel that it can for several reasons.

First, accountability is shared. Administrators, school-board members, teachers, students, parents and the community all must take responsibility for making their contributions, if PCRP implementation is to succeed. Administration provides the curriculum part of PCRP and the resources for implementing it. The teachers provide their energies and their expertise to implement, evaluate and refine the critical experiences. Parents and community members can be involved in learning how to provide a literate environment, in volunteering time for helping in schools and in sharing some of their expertise relevant to class projects. Students, must of course, be willing to become involved in the critical experiences.

Second, PCRP rests on continuing research and a good dose of common sense. That is why many persons may find so many ideas that they can recognize and affirm.

Perhaps most important of all, though, is the fact that PCRP provides a needed balance.

PCRP speaks to a balanced goal of developing competencies and nurturing positive attitudes.

PCRP suggests a balance of instruction in four critical experiences, whereas all too often, there has been an overemphasis on specific skills instruction, known as critical experience four.

PCRP recommends a balanced response to literature, i.e., the involvement of affective and cognitive comprehending processes.

PCRP places a balanced emphasis on having students become competent in sending as well as receiving messages.

PCRP secures the natural balance of the language arts and provides for students chances to experience language whole.

Finally, PCRP develops a concept of literacy and, hopefully, it can help us make a difference for our students.

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LET THEM WRITE

Donald H. Graves
University of New Hampshire
Durham, N.H.

People want to write. The urge to become an author to have a document that says, "I am, and I know." is one of the most elemental human desires. With young children the first urge is to write not read simply because they are self-centered enough to be more fascinated with their own scratchings and marks than the marks of others.

I was in a room the earlier part of June watching children enter a classroom from their buses. You can tell so much about a room when children enter it. Supposedly this was a room of children with learning problems. But they didn't know it. They didn't know it because the teacher had an incredible belief in their learning powers. She had a belief in their capacities to share information, in the knowledge the children already possessed that needed to be shared with others. And this teacher never ceased demanding excellence at the point of the child's best. Now the demand was quite subtle, "John, I can't wait to see what you have to say about that collection of rocks. Harriet, will this go in your best collection of papers? Is it ready yet?"

The children entered the room with an air of expectation - a sense of anticipation about the discoveries of the day that awaited them. Some went directly to blocks, others to magnets, a few to cuisennaire rods and about six (of all abilities) to pick up large sheets of paper for both drawing and writing. You know the kind with the large open space at the top for drawing and light and heavy lines below for writing.

Several started by drawing at the tops of their papers. Shooting sounds came out of several boys mouths as drawn figures clambered up a hillside to assault a castle on a hill. "Shhh" went another as water squirted from a fire engine to put out a fire. Others were already busy writing. The speed with which they started to write suggested they had been rehearsing their stories at breakfast or while they were on the bus. These children wrote throughout the day, without assignment. If the teacher ever assigned what was in progress she would have been arrested for violating the child labor laws.

Then there were Peter and Coni in another town. Coni, spelled with an "i", as she informed me, wrote about stars. "I keep finding new things in this book about stars," she said, "and in this one too and then I put them in my story about the stars. I know a lot about stars," she continued, "but not as much as Peter does about planets. You can't ever ask him a question about planets he doesn't know. I wish I knew that much about

stars. You ask him a question." she challenged. By this time a freckle-faced, red haired six year old was staring me defiantly in the eye, waiting expectantly for a question. I tried several questions and failed to stump him to both Coni and Peter's delight. Peter's desk was piled high with books on astronomy. He too was compiling his own information book from several sources. He was reading and writing, experiencing the joy of authorship and the joy of knowing. To me there is no look more exciting in teaching than the look of confidence, with a touch of defiance, when children know that they know - and then express it.

Bill, a high school sophomore, wrote about the Civil War. Since the age of six when he first went to Gettysburg, he had been waiting for this opportunity. Now he could show what he knew. The dust and smoke from the Peach Orchard literally swirled off the page. Words were misspelled, sentences dangled; there was hardly any paragraph sense but the writing was alive with information and feeling. For the first time there was a sense of voice and distance from the information. For the first time he wanted help with the conventions of language; he wanted his information to go to an audience.

All of these young people are bursting with messages and can't wait to get them down. They want to show what they know. They want to share their dreams and fantasies. It is not only important to their growth as persons but this country needs people who are not afraid to put what they mean on the line.

The urge to express may be basic, but it isn't trusted or permitted. Yes, there are many persons like Coni, Peter, and Bill but they are a shrinking minority.

Writing is in trouble. There is a crisis in writing but it isn't what the critics say it is. The crisis in writing is not poor grammar, punctuation, disorganized ideas, spelling or penmanship. The crisis in writing is that it is disappearing. There simply is very little going on, and it lessens with each passing day.

This crisis is more serious than any of us would imagine, yet more hopeful than initial evidence suggests. It is more serious because young people are viewed as receivers, not senders. A far greater emphasis is placed on their ability to read and listen than to speak and write. The real crisis is that writing is not permitted or encouraged from grade one through the university. Think of what this distorted emphasis on learners as just receivers of information means in a democracy where a premium is placed on the capacity of the electorate to respond.

Yet something can be done. Learners of all ages respond quickly when writing is taught well. There are pockets of good writing all over America where teaching is consciously or instinctively based on sound writing process research.

This afternoon we will focus on three major areas: First, we will review in greater detail the status of writing in order to see some of the barriers that stand in the way of helping students. Second, we will look at the importance of writing. "Why write?",

is a basic question that must be reanswered by every generation. Third, we will look at good writing practice and give specific suggestions for what can be done to improve writing.

Writing is an endangered species. The evidence is clear. Writing is on the decline in both schools and among the public. These conclusions come after we have completed a year's study of the status of writing in the United States, England, and Scotland. At the University of New Hampshire we have interviewed hundreds of persons across this country and abroad, and from all walks of life: garage mechanics, poets, novelists, engineers, business persons, teachers. We have visited schools at all levels and in most parts of the country. Although writing is extolled, worried over, cited as a national priority, it is seldom practiced.

We surveyed paper sales at the source, school supply companies. It won't be surprising to teachers or administrators that orders for duplicating paper are soaring; sales of lined paper used for writing are on the decline. Duplicating paper is used primarily for short answers, or multiple choice. There is no greater lament in education today than when the duplicating machine is broken.

We interviewed textbook editors and publishers. After we found from a study done by the Educational Products Information Exchange in New York that 95% of instruction in classrooms could be attributed to published materials we got interested in how textbooks were published and how they actually went about teaching writing. In a review of eight leading publishers of language arts textbooks we found that very little of the texts are devoted to writing - most is given to mechanics, grammar, reading, and oral language development. The few activities devoted to writing itself were concerned with stimulating the child with catchy topics and in the cosmetology of proofreading conventions after the paper was completed. Less than four percent of activities in upper grade texts were devoted to revision or multiple drafts. We can say in short that language arts texts are not really aimed at the teaching of writing.

Publishers were frank to say that when textbooks of any type demand writing they don't sell. One publisher said:

> When writing is part of a reading series or much writing is required, it (the materials) won't sell. Teachers want more labor saving devices, easier scoring, and, if you have to respond to a lot of writing, there is more work involved. Some publishers have tried and have been hurt by their ventures.

A survey of workbooks shows pupils are required to circle, underline, or draw a line to answers. Rarely are they asked to respond in full sentences. It isn't any better in high school or the university. The number two pencil is used to shade in the proper box in column A, B, C, or D. Examination essays are disappearing.

We surveyed U.S. post office data and noted a significant decline in handwritten mail. The post office department forecasts another eight percent decline by 1983. These data seem to operate independent of cost rises since within six months of price increases circulation goes back to normal. Telecommunications has taken over reflection through writing.

From our many interviews we found that writing is used mostly for shopping lists or short memos. It falls in the last resort category. This includes people from all walks of life: business persons, professors, secretaries, people in sales. Teachers are no exception. They do not write either. The difference between teachers and others is that teachers must help others to write. It would be unheard of if teachers of music or art did not practice their craft. For some reason the craft of writing is an exception. Teachers who were interviewed in connection with the study did not write because: they did not like writing, felt they were poor writers, did not have the time to write because of teaching demands, or did not feel it necessary to practice writing in order to teach it.

Since writing was seldom taught or teachers felt unprepared to teach it, we next examined how they were prepared. It is a rare situation when a teacher is prepared for the teaching of writing whether at the elementary or secondary level, or in any other walk of life for that matter.

A random survey of 36 universities showed: 169 courses were offered in reading, 30 in children's literature, 21 in language arts and only two on the teaching of writing. There is no place to turn for elementary teachers even if they did want to learn how to teach writing. Teachers do not teach a subject when they feel unprepared, even if it is mandated in the school curriculum.

The situation isn't any better for secondary school teachers. Even though they may be English majors they are not prepared either. English majors are usually literature majors. Outside of Freshman English, there is no formal attempt to teach writing and most English majors are exempt from Freshman English. Many Freshman English courses, taught by literature professors or graduate students, are literature courses with little writing.

Writing is held in low esteem in most English departments. The teaching of writing is given to instructors, graduate students, and junior faculty members. It is an accident therefore when a high school English teacher turns from the teaching of literature to the teaching of writing.

One of the greatest reasons for the decline in the teaching of writing has to do with testing. Writing defies testing at most local levels. Few know how to do it. For those that do it is expensive. Testing now dictates teaching since teachers tend to teach more strongly in the areas of system-wide evaluation. One sixth grade teacher said, "How can we show six month's gain in the quality of writing?" Persons who control the testing in school systems have the greatest influence on curriculum and

teaching. Few of these persons have implemented programs for any kind of writing evaluation.

Finally, writing in comparison to reading has received very little funding. Data show that for every dollar spent on writing, one hundred is spent on reading and in some communities far more than this. Without the funds the emphasis does not follow. Systems protect their emphases through inservice work, specialists and curriculum review.

Although most people surveyed wanted to write, collages of haunting memories prevented them from taking the field ". . .something dark and sinister about it, be neat and tidy or you flunk." For most people the way in which they were taught determined their view of writing and the degree to which they practiced it.

Writing in America is viewed as a form of etiquette in which words are put on paper, not necessarily with clarity, but free of misspellings or grammatical errors. The American does not feel he belongs in writing. He is similar to the person invited to a party of distinguished guests who is rather surprised he has been invited at all. He therefore has but one thing on his mind - to be properly attired, demonstrate the finest of manners, say nothing, and leave quietly.

Evidence of this view of writing is contained in the current literature on the writing crisis. Where are the persons who are upset about the lack of content in writing, the paucity of information in high-flown prose? No, the emphasis has been on the manners of writing, the conventions of discourse - the visible, the obvious. Content is ignored. Worst of all no one is speaking of the student's own tragedy, the unfulfilled desire to write.

Why Write?

We know writing is one of the three R's. We hear it extolled as a basic, and know now of some of the reasons why it is not taught. Still, has each of us answered the faint voice within us that asks, "Really now, why is writing all that important?" What is our answer?

Writing is not just something that admits us to a particular level of culture because we have observed the proper etiquette. Rather, it contributes to the development of all persons, no matter what their background.

Writing contributes to intelligence. The work of psycholinguists and cognitive psychologists now shows what many have suspected for years: writing is a highly complex act involving the analysis and synthesis of many levels of thinking.

Writing develops initiative. In reading, everything is provided for the student: the print waits on the page for the learner's action. In writing, the student must supply everything: topic, information, questions, answers, order of presentation, the right relationship between sounds and letters, their order, as well as how the letters are actually written on the page.

Writing contributes to reading. We forget that writing is the

making of reading. I am always amazed at how well young teens can assemble engines from scratch, pulling pieces from this junkyard and that to come up with a new whole, a new engine. But, these same persons who have the ability to assemble an engine also have even greater powers to dissemble, understand the workings of the most complicated parts. In short, for having made the engine they understand the process and operation of it. For having written, for having made reading, students understand its function better.

Not long ago I was speaking to the American Society of Engineering Educators in Orono, Maine. We got to talking about reading, especially as it applied to mathematics. It seems that the greatest problem in the solving of problems is not at the point of computation but in the reading of the problem. This will come as no surprise to elementary or secondary teachers. As our discussion continued I asked, "When was the last time students formulated engineering problems . . . and in writing?" Silence followed. Until students formulate the questions, from the other side actually write them, they will not understand as fully the reading of mathematics. We have had some exciting preliminary results from second and third grade children who have written mathematical problems for others. The problems are not written at the same level as they are currently solving since writing lags behind reading. There is a contribution to the reading of math problems, however, that bears watching.

Writing develops courage. The writer leaves the trees of anonymity and enters the plains of public scrutiny. His language, personal feelings and thoughts can now be read and reread by hundreds. But the development of this courage is very much in the teacher's hands. At no point is the learner more vulnerable than in writing. The child can be deeply hurt when the content, the information is ignored with superficial comments. Under these circumstances inane and apathetic writing is often the writer's only means of self preservation.

As in the cases of Peter, Coni, and Bill writing can be the means to personal breakthrough in learning. People interviewed in this study cited writing as the means to learning success across the curriculum, or as the subject that caused them the most humiliation. There was no middle ground when speaking about writing. "I was astounded when one of my paragraphs was read in class. I learned to write in a chemistry course in high school. Writing for the school newspaper turned me around," were some of the comments from people interviewed. Writing is visible. It provides specific means for reaffirming the worth and contribution of learners of any age. How can this be done? What can teachers do to help students through the writing process?

What Can Be Done?

The odds against the good teaching of writing are high. Yet very good teaching does exist with common characteristics that can help us all to aid writers of any age. We found these characteristics in agreement whether the student was in second grade or a sophomore in high school, in California, New Hampshire or Aberdeen, Scotland. First, these approaches to good writing had

a process/conference approach. Second, high priority was placed first on the content and information in the writing. Third, a general category of related influences stood beneath good writing practice.

The Writing Process/Conference Approach

The process/conference approach views writing in a time-expanded view. The time of writing is more than just the writing down of words. Rather, each student writing is viewed as an evolutionary document with attention given to precomposing, composing, and postcomposing. Writing was seldom something that just occurred during Language Arts from 11:10 to 11:50 or in English from 1:10 to 2:00 p.m. Writing was more than a stimulating topic and written comments on the paper. Each student writing was viewed as something that evolved over time. Attention was given to the preparation of information, rehearsal for writing. Teachers were involved before, during and after writing and usually aided young writers with several drafts through short conferences from 30 seconds to three minutes in length.

Some teachers instinctively use it. As practicing writers themselves they know how good writing results. Others are aware of a growing body of research on the writing process that offers specific aids about what is involved in the writing process and the effect it has on writers.

The work of Emig (1969), Graves (1973), Cooper (1977) and many others have shown how writers actually go about composing. For the longest time we have had to sit back and act on false assumptions about how professional writers and students actually went about writing. With different ages their findings mean different things. This is because a developmental profile is now being sketched and that shows how writers operate during the writing process and over several years.

Some of the findings lead to a different view of what writing is and how we teach it. For example, very young children rehearse their writing through drawing, painting, block play or three-dimensional constructions. This is called pre-composing. With older writers, interviews, reading, personal collections or brainstorming key words are important pre-composing activities. Data on any age show that writers seldom pick up a pencil and just start to write. This is true whether the writer be amateur or a Pulitzer prize winner. Sometimes the rehearsal is invisible. That is, the young writer may rehearse while reading, daydreaming before an open window or hoeing in the garden. Some need to rehearse through concrete manipulations, graphics, whereas others can do it in their heads.

The data show us that young writers are very different in terms of sexual preference for topics. When seven year old children wrote boys particularly needed rehearsal time, wrote about topics of great territorial expansiveness. That is, their topics had to do with community, national, and world events. They most often wrote in third person in the male gender. Girls, on the other hand, needed less rehearsal time, wrote more rapidly, in a well-developed

first person but on topics that centered in the home and school. Girls were much more comfortable in using male characters, boys were hostile to the use of females in their stories. Furthermore, when assigned topics violated the use of person or territory, both sexes reacted negatively and had a difficult time writing.

Research data now exists that shows writing assignments for young children are not necessary when a high priority is placed on a process approach in a stimulating environment. Indeed, for the first three grades the amount of writing is inversely related to the numbers of writing assignments. The more we assign, the less children write. At the secondary level assigned topics are a hindrance since the odds are high the student is unable or uninterested in the topic. Few professional writers ever write on topics they know nothing about or have little interest in.

Where there was good practice children and students were helped while they were composing. Questions extending and questioning information, developing the writers sense of voice and authority came in quick rounds during the composing process. Most of these teachers were sensitive to the developmental issues of student concepts of the writing process, their understanding of audience, and their current progress as writers.

After composing the writing conference usually centered on a collection of writings. Although this was important for all writers, the young child was the chief benefactor since he could seldom remember the last writing, or have a remote sense of progress. A sense of progress in writing is essential. Some systems have gone as far as maintaining collections of writings over the years, with students and teachers choosing four papers a year to go into permanent folders. Other teachers stressed permanently bound personal collections, class collections or books made by students that were circulated from the school library. Permanent collections contribute strongly to strong content but especially to precision in language conventions.

In England I recall a teacher saying to a seven year old, "Alfred, do you think you are ready for your final copy?" Alfred nodded in agreement. "Well then, you may choose from four types of paper and several instruments. Remember now, your very best for the book." The aesthetics of good writing with final copy, along with conventions, heighten the child's view of good writing and the entire writing process. When young children begin to be excited about their information they envision the final draft, even the choice of paper on which it will be written. At the secondary level publishing by room or school is common practice when writing is valued.

The Focus on Information

Good teaching focused on the student's information. Whether the writing was poetry or an essay, fantasy or a small book on prehistoric animals, the teacher's first attention was to the information. Until there was information the teacher could not respond. Furthermore, the establishment of the young writer's authority and voice was central to other demands that come later in the writing process.

This teacher worked on both voice and information in this two minute writing conference:

> John, I had no idea you knew so much about hockey. I like the part about overtime best of all. But the ending is unclear. How did they feel after the game? Snapping an eleven game losing streak was on their minds at the beginning, but I find no mention of it here (at the end).

There were many errors in punctuation, grammar and spelling in the paper but until John had dealt with the missing information, the audience issues related to the conventions did not apply.

In classes where there is good writing, writing is done over time. A seventh grade assignment may take six weeks with three of the six weeks spent in gathering information. People are interviewed, books read, sources developed until the writer begins to feel as though he knows something about the subject. One of the greatest barriers teachers face with young writers is the answer to the question, "What does it mean to know? When is there enough information in the writing to say that it is a useful document?" This is a problem that cuts across all subjects lines but one that writing can address very well.

The issue of information applies to poetry and the fantasies composed by very young children. Teachers are always trying to extend the information contained in the writing. "What did he look like? What kind of a day was it?" Actually poetry and fantasy are the most demanding in terms of information. There is a popular myth that these two types of writing are personal and that we shouldn't interfere when creativity is at work. The more personal the writing, the more specifics the writer needs to supply for the reader.

Broader Influences

There are some indirect influences that were common to each of the strong writing programs whether they were in this country, England, or Scotland. I am referring to strong programs that were found in more than one classroom.

I was struck by one visit in particular. In Aberdeen, Scotland I noted a room with children seated row on row in apparent uniformity. As I walked in I was impressed by the high quality of writing. I went to one child and asked in typical research fashion, "Tell me, Bruce, how did you manage to come up with such a good story?" I expected Bruce to report the details of his process. He took me by surprise when he said, "I am from Aberdeen, that's why. And this is the way we do it." Bruce's statement took me aback until I spoke with other children and the staff. All took pride in the quality of written craft. They spoke of writing as if it were a city or national birthright. They had a tradition to uphold. The power of a group to stimulate, support and raise standards has been underestimated in America. We have examples in some areas when people respond with common energy to natural disasters or community needs, but more is needed in classrooms and schools.

The energy question is one of the most significant questions affecting writing and other instruction in America today. One of the by-products or unexpected issues that struck me in this study was the fatigue felt by many teachers. When fatigue is high, writing is one of the first to suffer for no curricular area is as sensitive to fatigue or morale. Where there was high accountability by decree, low mutual teacher support, teachers were tired, learning suffered and writing was first to feel the blight.

In contrast, when teachers were supportive of each other energy levels were high, there was good writing and basic expression. When teachers listened to and supported each other there was a different view of the need for children to express. I visited a small school in Connecticut where teachers actually held a birthday party for one of the faculty members at 7:10 a.m. This was more than a birthday party since teachers were sharing children's work; older students were scheduled to help second graders; teachers swapped classes - one taking dance while the other took music. The librarian contracted for children to compose an information book on whales. The energy these teachers gave to each other was contagious and led to a workday where they arrived at 7:00 a.m. and left at 5:00 p.m. - not exhausted but refreshed.

Writing is not taught but it can be. Writing is on the decline but it doesn't have to be that way. People of all ages need to write in order to read and think, to know that they know - to have a sense of voice, to feel they can respond. This can happen, not through isolated efforts but through support as basic as two teachers bonding together to help each other and children. Universities need to do something about the preparation of teachers. Time needs to be provided for students to write in school. We need to let them write.

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AN INTERVIEW WITH EARL F. RANKIN ON THE CLOZE PROCEDURE

Transcript Prepared by
James D. Peebles
University of Pittsburgh
Pittsburgh, PA

Earl F. Rankin is Professor of Education at the University of Kentucky. He is, moreover, a highly regarded authority in the field of reading and has maintained an abiding interest in the cloze procedure almost from its inception. Rankin presented a three day workshop on application of the cloze procedure for classroom instruction at the Thirtieth Language Communications Conference. During the conference, Rankin was interviewed by James Peebles and Anthony Petrosky of the Faculty in Language Communications and three graduate students: Stuart Foreman, Shirley Miller and Mary West. Highlights of the interview have been prepared from the original video tape.

Mr. Foreman: Now that the cloze procedure is about twenty years old, would you discuss how it has changed over this time span along with changes you perceive in the near future?

Dr. Rankin: It is a few years longer than twenty years, about twenty-five or so, but it was Wilson Taylor who originated the concept of the cloze procedure. He applied it to the assessment of readability; that is the difficulty of printed passages. His early work showed that more or less conventional writing assessed by cloze corresponds very closely to the rank order of difficulties as assessed by readability formulas, regression equations. This has been found true over the years, but the really important thing that Taylor was able to show was that if you give people material which contains unusual words, or sentences in which syntax is different, such as Gertrude Stein or James Joyce and use a readability formula on these materials it will come out to be an easy kind of reading. We know it isn't easy, and if you use the cloze procedure you find out very quickly that it is quite difficult. So, you have a sensitivity to linguistic variables in printed materials which is picked up by the cloze, making it by far the best measure of readability. Other formulas predict readability. Cloze measures it. And measurements are more accurate than predictions.

Over the years there has been a continuing interest in readability and the cloze, but it has not been a continuing practice. When publishers, for example, want to determine the readability of

their materials, it is much cheaper and quicker to use formulas like the Dale-Chall, the Fry, the Flesch, or the SMOG, and come up with an estimate of difficulty. But, it doesn't tell how suitable the material is for a specific group of readers. Cloze will give you this kind of information. For example, you could use cloze to find out if a certain material is suitable for some group of inner city youngsters, or for a group of pupils in a rural area. Cloze has this potential, but it takes some effort. You have to go out and give cloze tests to people, and then you have to gather the data, and process it. Although the potential is there, and easily demonstrated, it hasn't been used to any great extent except for research purposes.

I, following the lead of Wilson Taylor, was one of the first investigators to show the potential of cloze for reading comprehension. We know now from my early studies and many studies over the years, that cloze will produce comprehension scores which correlate very highly with conventional reading tests. I am referring to tests covering the same material as the cloze; tests which are standardized, such as the Cooperative Reading Tests, the Gates-MacGinitie, and others. The correlations between cloze and standardized tests tends to be in the .70's and .80's. These are remarkably high correlations. As a matter of fact, the cloze tests correlate higher with standardized reading tests than standardized reading tests correlate with each other. This is true, despite the fact that a teacher with perhaps one hour workshop on the cloze can sit down and construct a respectably reliable and valid cloze test. Yet, it takes many hours and days and weeks and months of training to construct a good standardized comprehension test.

Despite this fact, I would say that the measurement of comprehension with cloze has remained a laboratory tool. It is not used much in the classroom. I think there are several reasons for this. One reason is that cloze is sufficiently different from conventional measurements, and people looking at cloze tests don't really see it as measuring comprehension. The face validity is not there. Cloze isn't as easily accepted as a measure of reading comprehension as that produced from selections where multiple choice questions are answered on the material. Also, the fact that when one takes a cloze comprehension test one necessarily makes a lot of wrong responses or finds many deletions that cannot be filled in and, therefore, comes up with a low raw score even though forty percent accuracy is doing well. This is a problem the person taking the test is confronted with. It's a problem for the teacher giving the cloze test, because the teacher doesn't want to give tests

that threaten students, and students tend to feel threatened by cloze. Because of this, I think a major trend in the future will be to find ways of increasing the face validity of the cloze testing procedure while reducing the stress factor involved as a result of making a lot of mistakes. I think this should be a major thrust for the future.

I think another direction for the future will be wider use of cloze for readability assessment in order to find out how readable materials are for specific groups of pupils. Teachers will begin to say that it is worthwhile going to the trouble of clozing rather than counting the length of sentences and the number of polysyllabic words.

I'm finding that the largest area of research on cloze is not reading, but language. The linguists and psycholinguists are finding that cloze has tremendous potential for studying language variables. This is the dominant thrust in cloze today, and I think this is a worthwhile emphasis reflecting a point of view of Gibson and Levin in their excellent book, The Psychology of Reading, that research on reading over recent years has been misplaced. We have concentrated heavily, and with no good results on the methodology of teaching reading, and have neglected to do basic research on the reading process itself. I think if we get back to basic research on reading, which we had some years back, we will necessarily get more and more involved in studying the nature of language. You really can't divorce the study of reading from language. I think that cloze will enable this new thrust of research to be more effective as it relates to reading. These are some of the trends, in answer to your question.

Dr Petrosky: You mentioned the problem of face validity with cloze tests. Do you think that allowing synonyms on cloze tests would increase face validity, or, in what ways could face validity be improved?

Dr. Rankin: A number of things can be and should be done. This is something I started to do some work on a few years ago, and between one thing and another was shunted aside. I took some cloze tests, and tried to develop a set of operational procedures to define synonymity so that two people applying the same criteria could come up with a similar score. I don't think it is beyond the realm of possibility at all. As far as I know no one has done it. I think if we can come to grips with this pupils will intuitively feel that it's more fair to be given credit for a word that means closely the same as the actual word taken out. There is a theoretical basis to be established for objective cloze scoring. While it is not out of the realm of plausibility, it is not

an easily acceptable notion. I think some good work on synonymity will make a great difference in increasing the face validity of cloze.

I also think we might increase the face validity of cloze by preparing students to take a cloze test. We could call this establishing cloze readiness. Through exercises or short examples before taking a test we could show pupils how cloze works. As pupils work an exercise the teacher pauses and discusses words that may be put in, and talks about some general procedures of how to go about doing cloze. I think this would reduce some of the threat of the cloze test, and increase its face validity.

I think something else that would help would be to use more multiple choice cloze. Instead of filling in a blank with a word, you select one word from say three or four alternatives. This produces some problems because it reduces the replicability of cloze tests and gets more into the art of item writing which is unfortunate, but still I think it might be worth trying.

I think another thing we could do is allow the length of lines in a cloze test to be proportional to the length of the word that is deleted. This kind of a clue is not unwarranted, and would help students feel a little bit more assured of getting more correct answers.

I think another thing that could be done is to use what I call post-cloze tests rather than pre-cloze tests. The distinction between these two kinds of tests, I believe, was made many years ago by Wilson Taylor. In the pre-cloze test you take a passage and simply delete every nth word, and ask a person to predict the words that were taken out, or the synonyms. A post-cloze test is when you ask the person to read the article and then give him a cloze test based on the passage just read. Obviously a post-cloze test takes more time. So, it is very seldom done. However, I think you could make a good case for reducing the stress factor in taking a test if the experience of reading the original article precedes filling in the blanks. It would provide a little more structure and reduce the amount of uncertainty. At any rate, I think more work needs to be done on post-cloze tests. Moreover, the post-cloze test doesn't have to be given immediately after the reading. In fact, I could see a good reason for delaying, as this would reduce the factor of remembering individual words, which is not at all what we are looking for. I think giving a person an article to read and then giving the cloze test two or three days - a week later, even, would work. I've done that. Reading a passage a week before taking the cloze test would provide just enough structure to reduce some of the uncertainty, or stress in taking the cloze test.

I think another thing that could be done to increase face validity is to use a sort of a fading technique; the

Skinnerian term. I just thought about this. You know you can use different deletion ratios in constructing cloze. Over the years, people who don't know the cloze literature think a cloze test is a test or exercise with every fifth word taken out. I've seen it even defined this way in the literature. They think this is the only way you can do it. Well, this is nonsense. You can take out every fourteenth word, every twentieth word, any nth word that you want until you get too close, and if you get closer than every fifth word you get too much interdependency between one response and another. Then if you happen to miss this item you're out of luck for the next few items. But, you can use other deletion rations, and I think the almost exclusive dependency on every fifth ratio is unduly stressful to some people. You can decrease, the stress by having ratios like once every seventh or every tenth. The fading procedure would work like this: You would start out deleting every tenth word at the beginning, say of the first paragraph of a passage, and gradually reduce it to every seventh and then to every fifth, or, you can go slower. There are a number of possibilities. In any case, you start with maximum context for any given blank, and you gradually decrease the context as people gain more confidence in working their way through a test.

These are some ideas you might give thought to for increasing face validity of cloze tests.

Dr. Petrosky: Would you say a few things about the theoretical and empirical basis for using cloze, especially with respect to comprehension.

Dr. Rankin: We've talked about face validity, and I have some colleagues who are really into measurement with a great deal of sophistication. They say very seriously to me, "Do you really think that the cloze measures reading comprehension? How can it be measuring reading comprehension? You don't look at a paragraph and have these blanks staring at you. This is a contrived artificial sort of thing that may correlate with reading test results, but that doesn't prove it measures what those reading tests measure. It may be due to some variance in common; it may be that both of these tests have something else in common, not because they are both measuring the same thing." Well, it seems to me that there is a better theoretical base for cloze as a measure of reading comprehension than any other type of reading test. The traditional standardized test that purports to measure reading comprehension is not firmly rooted in linguistic theory. You could measure this skill and that skill, or some other skill, but this doesn't really stem from theory. Now what kind of theory underlies the use of cloze? Well, I

think the concept of redundancy and information as it applies to the reading process makes a strong case for cloze as a valid measure of comprehension. Every time you read something you reduce uncertainty to the extent you understand what you're reading. You approach a printed page with a certain amount of information stored in the nervous system from your past experience, and you bring to that printed page more information from your nervous system than you get from the printed page, from the visual information. Information coming from more than one source we call redundancy. The person who approaches a reading task with a strong language background is tuned in to the distribution and sequential redundancy of language. Distributional redundancy means some words are used more often in the English language than other words. The word 'merry' is a word that occurs more often than the word 'cloze', for example. So, a person who is in tune with his language is more sensitive to the redundancies of the language. He knows intuitively, so to speak, that independently of any context, that this word, or even this letter, this syllable or this word unit, occurs more often than others. He's more likely to make a correct prediction because he's more in tune with the distribution of redundancy in the language. In addition, he's probably going to be more in tune with the sequential redundancy in the English language. If we take the sentence, "Perhaps it would be _____ to begin", well, a person who is in tune with sequential redundancy knows that a word like "best" would fit in there better than something like "anamatopaeia" or "quiche lorraine". The syntax of our language means that certain words have high probability of occurring within the context and independently of context, and it is precisely those two kinds of redundancy and interaction that cloze taps, and this is really a very basic part of this rather indefinable thing we call reading comprehension. So, I believe that the theoretical base for cloze is stronger than is the theoretical base for conventional reading tests.

Dr. Peebles: Many reading authorities view reading comprehension as a set of specific skills, or as a hierarchy of general thinking abilities as, for example, literal or inferential comprehension and critical thinking. Do you see these traditional views relating in any neat way with what we're calling comprehension with cloze?

Dr. Rankin: Well, that's a very good question. I think more study needs to be given it. I would say that if you're looking for some sort of diagnostic information about the comprehension process; if you want

to conceptualize reading as some sort of a hierarchical structure, and determine if a person is having difficulty comprehending in some global sense or if he's having difficulty because he doesn't handle details well, or because vocabulary is weak or because he isn't making generalizations; you don't get information like that from the cloze. You're giving up something to get something.

Dr. Peebles: A reader does more in the thinking process with cloze than simple recall. The filling of a blank seems to require more than just a literal understanding of what is written. There must be inferential thinking, or relating ideas that are there in order to determine that this is the word that fits in a deletion.

Dr. Rankin: It certainly reflects the intereaction of a number of different cognitive processes. And I would say that the inferential process is heavily weighted in making cloze responses. One is making an inductive leap about what should be here - going beyond the evidence so to speak, and so obviously you're getting above the level of literal comprehension with the conventional cloze where you have every nth word deleted. I do believe that the concept of a hierarchy is somewhat over simplified in reading. I'm not really convinced, although I have some unpublished tests with a hierarchy of sorts, but I don't call it a hierarchy or classification system. I don't think that it works so that you have to get the facts before you get the inferences, and you have to get the inferences before you get generalizations, and you have to get all of these things before you can be critical. I think that is sort of an intellectual mythology that we put together to write about, and something to talk to our students about. Basically I don't think that the evidence is too strong. It wouldn't be too difficult to think of ways in which you couldn't get the facts until you've already made the generalization. The idea of a hierarchy meets the intellectual needs that we have for orderliness, but I don't think reading is very orderly. I don't think research is very orderly either. I think we teach research as though we go through a one, two, three, four process. I know I've done some sixty research studies over the years. I muddle around in a state of confusion for a while between the time I start to do research and the time I finish. I don't even talk to many people before I get through, because it's sort of embarrassing. I think we ought to do more of this sort of thing so that people don't get the idea, that our understanding of reading is more than it is, or that their understanding of how we go about researching reading is clearer than it really is.

Dr. Petrosky: There are some researchers, like Tom Anderson and Andrew Ortoni from the Center for the Study of Reading in Illinois who don't think that there is such a thing as literal comprehension. They believe there is a sliding scale of inferential thinking, or inferential comprehension from low inferential to high inferential on one side, and on the other side you could have low inferential - high inferential in the domain of figurative language also. Would you comment on that?

Dr. Rankin: I'm not familiar with that notion, but I find it immediately appealing, because I know, at least from my own experience that as I'm reading something it is only by anticipating and confirming my anticipation that I understand. If I try to grasp this detail and that detail, I usually end up losing the details. Inferencing, therefore, is a very basic and natural thinking process. Trying to concentrate on details is a very unnatural process. I think I understand the details when I don't try to understand them directly. And so by making inferences I think I accomplish a number of different results that would not be available to me if I tried to focus on the details themselves. It's sort of like looking for happiness. You find it better as a by-product of other activities. If you search it will elude you. I like that notion very much.

Ms. Miller: What kinds of materials would you recommend to teachers for making cloze passages?

Dr. Rankin: I think teachers should have, ideally, a variety of materials catalogued according to difficulty and according to interests. The steps I'm going to describe I got originally from a teacher in a vocational college. She gathered all kinds of reading materials from magazines, newspapers, I don't know what all. Then she categorized these materials according to the dominant theme, or interest. Next, she arrived at a readability assessment for these various articles - passages - and then she set up a computerized system to catalogue them. Then she devised a little instrument on which a student could indicate a topic of interest. She indicated the general comprehension level of the student and the computer would read out an assignment in terms of the diagnostic pattern, skills, and interests, and general capabilities for the student. The computer would read out, "Here's your assignment for the next two weeks when you come in to the reading and study skills center." I've always thought that was a great idea, and should be developed further. Another thing I have done is to catalogue in a file of cloze exercises materials at successive difficulty

levels with some exercises having every tenth word deleted, others with every seventh word, and others with every fifth word. The idea here is if an assessment shows a child can begin at a third grade level then you could go to the file and say here are materials at the third grade level and, I'm going to start out with an every tenth word deletion exercise for this child and then as he succeeds with every tenth word staying at the same readability level, I can go down to every seventh word and work on exercises there, and then as he succeeds at that level, I cut it down to every fifth word but I'm still keeping the readability level constant. As he succeeds with every fifth word deletion then I can go up to the next higher readability level, start out at the every tenth word again and then proceed down with word deletion counts.

So, I think this would be a practical method to collect materials within readability levels. You could also set up materials according to interest levels. The cloze procedure lends itself so well because you can take materials from sports magazines, articles on racing cars, things from Playboy if you wanted to, and make cloze exercises out of them without taking a whole lot of time. What you really need is a good secretary who can type out the exercises and leave the blank spaces in the correct order.

Ms. Miller: Do you think starting in the Primary grades is too early for this technique?

Dr. Rankin: No, I don't think so at all, although, it has to be used with discretion.

Dr. Peebles: Some people have conceived of a modified cloze procedure for primary grade children called "mazing". Instead of a blank space a child is given two or three alternative choices.

Dr. Rankin: Yes, and I think for very young children it would be definitely advisable to use alternatives, and not use the fill in the blanks. There are some strategies for choosing alternatives that you want to consider, however. For example, if you wanted to make the alternatives very easy, you would select alternatives which were different syntactically as well as semantically. If the real word is an adjective then the alternatives would be a noun, a verb, or an adverb. This makes it pretty obvious so even the weakest student may get the right answer. That's what you're trying to do. You want to reinforce. You can make it a little bit more difficult by having all words from the same form class and make the semantic differences rather obvious, but the form class is kept the

same. Then I think the third step is to make the similarity among the semantic alternatives within the same form class call for finer discriminations. This is all a matter of knowing the capabilities of individual students and having enough materials and resources to fit the materials to students.

Dr. Petrosky: Do you recommend to teachers to pick materials for cloze that students are interested in, and I'm thinking of the boy who doesn't read anything, say, other than sports magazines and car magazines. Would you suggest taking passages from one of these sources and clozing it?

Dr. Rankin: Definitely. Unless the readability level is too high, although that may not be important, because we know that the concept of readability is a very relative thing. When a person is strongly interested in something, he may read it even though its difficulty level is greater than his reading level. So, if he really wants to read something from a sports magazine the readability level might not be so important. However, I suspect these magazines are not written at a terribly high readability level, or they wouldn't sell so many of them. But, I think this is a very definite plus factor.

Dr. Petrosky: That's very attractive. One of the faults I've had with tests that claim to measure comprehension is the limited interest range. They sort of pick cut and dried samples of prose and ask people to read them and respond to them. It occurred to me while you were talking that one of the great advantages of cloze is the adaptability to the individual readers.

Dr. Rankin: True. This is a nice feature of cloze; if you have a really low ability reader, let's say, a high school youngster who's reading at about the third grade level, you can give that youngster who's reading at about the third grade level, you can give that youngster a cloze exercise, even based on third grade materials, and it is sufficiently challenging that he doesn't feel this is baby stuff. I've given first grade materials to college students to fill in a cloze exercise and nobody ever says, "Gee, this is too easy. I don't want to mess around with this baby stuff." It doesn't have that same babyish characteristic, and yet it may be within a level of difficulty he can cope with, and that's a very important feature.

I think the concept of readability is interpreted in too much of an absolute sense. We know that college professors, doctors, lawyers, and teachers, when they go home at the end of a busy day don't generally

pick up a volume of philosophy. They generally pick up something that's about four grade levels below what they are capable of reading, because they don't want to read something that takes too much of their energy at the time. But, people are going to read something at a higher level if the motivation is there. Motivation is a basic factor in all reading, and it transcends presumed limitations of skills that people have.

Ms. West: I have a question related to materials. You made a reference to this earlier. Do you see a difference in effectiveness of cloze with say fictional literature over non-fiction content area materials? For instance, I've had some problems in a high school setting using cloze with novelists, compared to using it in a reading class with articles from a variety of sources. If there is a difference, how can we compensate?

Dr. Rankin: I suppose the objective in reading is involved here. In a particular course if your intent is for pleasure, the novel or short story for fun, then having to fill in the blanks takes a lot of the fun out of it. If your purpose is to improve pupils' ability to comprehend, maybe you're willing to forego some of the fun. This may be the problem, but if I wanted to enjoy a Bach fugue, I wouldn't want it with every tenth note taken out. I might get some fun out of it in another context, perhaps trying to predict what the note is, thereby showing my understanding of Bach's techniques of composing. But in a situation of wanting to enjoy, I wouldn't want to have the blanks there. Maybe a lot depends on the context within which the work is done.

Dr. Petrosky: In that same vein, how about using the post-cloze on fiction?

Dr. Rankin: There you could sort of have your cake and eat it too. After reading it and enjoying it, then you could work some reinforcement into the post-cloze. Cloze lends itself beautifully to reinforcement, because you can readily convert the cloze response to points, or to trading stamps, whatever you like. In certain remedial contexts that makes it very attractive as a strategy for teaching.

Dr. Peebles: In another setting you mentioned compiling over 600 references on the cloze procedure. Would you say the growth of interest in cloze, as evidenced by the literature, has been gradual and steady, or has it been periodic?

Dr. Rankin: It's ballooning. If you take five year segments, out of the total number of articles, I don't know the exact percentage, but a large - large percentage was done within the last few years. The amount of research is increasing. There is a problem, however. Cloze is not getting into the classroom. It seems that nothing gets into the classroom until the publishers do it. Basically, I don't think college of educations accomplish very much in so far as effecting classroom practices in a direct way. I don't like to say that but I think it is true. It has been twenty-five to thirty years since cloze was developed, and it still is not into the classroom. Maybe in another twenty-five years it will be. The publishers haven't picked it up. The only published test I know is the GAP Test done by a person in Australia or New Zealand. I'm publishing the only other cloze test this summer, or set of cloze tests for a publishing company. This may be the first cloze test published in this country. But, when the publishers do something, and sell it to the schools, then it has an immediate impact on teachers' behavior far above what we do in college courses. Publishers might not do what we think they should do, but, on the other hand, there is a potential there for getting something accomplished. I think a closer liaison between professors and the publishing industry would bring about a quicker movement from cloze theory and research to practice.

Mr. Foreman: Which other languages have focused on cloze?

Dr. Rankin: Beyond French, I couldn't answer you.

Dr. Petrosky: As a final question, would you hazard a definition of reading?

Dr. Rankin: If I knew the answer to that I would be a very famous person. I am content, at least momentarily, to define comprehension as getting the message the author intended to send. Comprehension is part of a communication channel. The author is sending out some information, and if I can receive that information in a manner that closely resembles his intent, then in one sense of that word I am comprehending. In order to do that I'm going to have to be very sensitive to the various kinds of redundancies in the message in order to correctly anticipate at various choice points what idea will be coming next. I would not only get the message, I would get it in an efficient manner by testing hypotheses, flexibly and efficiently, so as not to overload my short term memory and make it seem like too much work. Hopefully, if I did that, then, this is the most important part of the definition. I would also enjoy it. But if I didn't enjoy it, it really wouldn't be worthwhile anyway.

THE INFLUENCE OF VISUAL AND AUDITORY LABELING EXPERIENCES ON READING AND STANDARDIZED TEST PERFORMANCES

Wendell Rivers
St. Louis University
St. Louis, MO

Introduction

The results of many studies indicate that White middle socio-economic status (SES) children obtain significantly higher scores than Black low SES children on standardized ability tests. As a consequence, it has been assumed by some behavioral scientists that Black children have poor language development, and underdeveloped auditory and visual discrimination skills. In many cases, these kinds of assumptions have been based upon research with such instruments as the Peabody Picture Vocabulary Test (PPVT), the Illinois Test of Psycholinguistic Abilities (ITPA) and other standardized instruments which have little content which is specifically related to the cultural-educational experiences of most Black children.

Most of these tests were designed to be used by teachers for the diagnosis of learning difficulties, to evaluate learning process, or to predict the school performance potential of students. Regardless of which test is utilized, a child must comprehend phonological sequences, syntactic structures and sentence meanings to engage in problem solving. In fact, the child's understanding of the test questions must be isomorphic with the literal reading which the test developer assigns to the questions. In addition, the child must understand the directions which accompany each test or subtest, and must be aware of, and familiar with the linguistic characteristics of the examiner. It is reasonable to speculate that culture specific factors such as styles of language, auditory and visual discrimination, interact with the above required behaviors, to account for a major portion of the differences found in reading and test performances of children from different cultural backgrounds.

A number of researchers (Neal 1969, McClary 1969, Roberts 1970, Ali and Costello 1971, Mercer and Brown 1973), have suggested that the PPVT should undergo certain modifications in order to be appropriate for use with Black children.

A number of studies have investigated the possibility that reading and test performance are associated with naming and labeling experiences. Denckla and Rudel (1976), compared poor and normal readers (ages seven to twelve) on "rapid automatic naming tasks, and found that the groups differed on both accuracy and latency measures. More errors were made by poor readers; in addition, they took longer than average to produce the names of common objects, colors, letters, words and numerals when these were presented visually." In a related study, Perfetti and Hogaboam (1975) found that children who were poor in reading comprehension had significantly longer response times than did average

readers on tasks requiring the rapid naming of high- and low-frequency standard English words.

In a recent study conducted by the author (Rivers 1977), a modification of the Peabody Picture Vocabulary Test was administer to 400 Black elementary school children in an attempt to assess the influence of visual and auditory labels on standardized test performance. The basic objectives of the study were: (a) to obtain culture specific labels for the visual stimuli of the PPVT; (b) to analyze test performance under two research conditions: (1) standard* instructions and standard stimulus words, (2) standard instructions and non-standard* stimulus words.

Findings of Research

When they were given the free choice of labeling visual stimuli of the PPVT, the children who served in our samples produced words and labels which were different from those considered correct in the standardized scoring scheme of the instrument. Not only did the children produce alternate responses, but these responses appeared to be embedded within their specific cultural milieu as evidenced by their within-age group usage and recognition. This finding is consistent with those of Williams and Rivers (1976) who examined the Boehm Test of Basic Concepts under similar circumstances.

Findings in the present study indicate that the coupling of non-standard words with standard referents occurred at significantly high levels of frequency in the performance manifested by the children in our samples. The fact that this phenomenon was evident across all age groups, and, that the use of certain words was found to be consistent within age groups, indicates that the observed relationships had been stabilized and solidified within the groups at a sub-cultural level.

Our findings also indicate that there is a reasonable probability that a non-standard word will be associated with the PPVT visual stimuli when modified verbal stimuli are used. However, when standard verbal stimuli are utilized, the probabilities shift in favor of "no" responses, or an "incorrect" response, because of weak or non-existent word-referent relationships in the stimulus presentations which characterize the PPVT. In essence, there is a mis-match between word and referent when the test is used with urban Black children who approximate the socio-economic characteristics of our samples.

The modification of the PPVT through the substitution of the word elements in the standard version constituted an attempt to present the children with familiar language-object relationships, which have been strengthened by corrective feedback within their specific cultural experiences. Thus, it was assumed that their performances would be a true reflection of language achievement.

The results of the administration of the modified, or non-standard, version appear to confirm this assumption in a positive fashion. I.Q's which fall into a normal range of functioning were obtained. The sample group which received non-modified or standard versions of the instrument, performed at level 10-15 points below the normal range in intelligence. This later point is consistent with the findings of many studies which

*Standard and non-standard refer to the published version and that developed for this research respectively.

have used standardized tests of intellectual abilities with children from minority and low socio-economic backgrounds.

The interpretations given to the results of the study do not agree with the line of reasoning which suggests that the failure of Black children to produce standard word-referent relationships is a function of an insufficiency of corrective feedback. We would propose instead, that this failure is based upon the existence of high corrective feedback.

There is evidence present in the results of this study which suggests that school attendance has little impact in modifying word-referent configurations to approximate standard form. As the age range of our subjects increased, so did the degree to which consistent, non-standard labels were used to identify the pictures comprising the plates of the PPVT. It appears as if the predictive validity of the test for children who approximate the characteristics of our sample groups is not only confounded by the operation of culture specific moderator variables, but also by the failure of the criterion (the classroom) to provide alternatives to the expression of those variables. It seems as if the culture-specific associations developed by our subjects by age eight are highly resistant to the inputs of formal, urban elementary education.

Cultural-specific, word-referent relationships observed in the responses of our subjects, emerge as critical factors in the determination of test performance. The PPVT contains visual materials which are familiar to Black children, however, the required verbal labels are not commonly associated with these stimuli. Unfamiliarity with the nature of the expected word-referent relationship acts as a depressive factor in the performance of Black children. The fact that culture-specific word-referent relationships become more stabilized and generalized as the child grows older is evidence of the effects of language experience and specific reinforcement of the associations.

It was not a surprise to find that auditory receptive ability is significantly related to performance on both the PPVT and/the modified PPVT. The author (Rivers 1969, Williams and Rivers 1972) suggested several years ago that the most noticeable characteristics of developing cognitive behavior is the emergence of processes which involve the systematic transformation of direct sensory information from the environment into symbolic forms. These transformations lead to active interaction among learned symbolic responses.

It appears as if many of the verbal stimuli of the standard PPVT do not signal or activate the receptive-conceptual systems of the Black child to the extent that systematic transformations are evoked to produce the expected responses. The performance of our groups of subjects on the modified PPVT signals a reduction of this transformational difficulty and a less suppressed activation of their receptive-conceptual systems.

The specificity of the present findings would be enhanced by a follow-up study which examines and compares the level of abstraction of the labels which were elicited for use in the non-standard version, such as that performed by Neal (1976). One of the major criticisms which could be offered in regard to the study is that the factor of abstraction level was not included in the establishment of criteria for the inclusion of words into the non-standard version.

Another criticism which could be offered is that the modified version of the test was easier for our subjects than is the standard versions. The reason is because it contains verbal stimuli taken directly from their experiences. However, the same criticism could be justifiably suggested when the standard version is used with middle class White children upon whom the instrument was standardized.

Conclusions

None of the data in the study points to the need for separate tests for Blacks and Whites. Rather, the findings highlight the need for more caution in selection to whom standardized test should be administered. At a more critical level however, there is a serious need to monitor the purpose for which a particular test is used. The Peabody Picture Vocabulary Test is used quite frequently as a test of intelligence. However, it appears from the results of the present study, that when used with the urban Black children in our samples, it failed to tap a critical component in the expression of intelligence, namely, the verbal and visual experiences of those being measures.

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TECHNOLOGY: ITS EFFECT ON LITERACY

Omar K. Moore
University of Pittsburgh
Pittsburgh, PA

In this paper I take it as my first task to place literacy in a broad evolutionary context so that we can see more clearly the significance of some contemporary changes in our ways of communicating. Next, I illustrate what I believe to be the direction of change in the application of high technology by treating, in some detail, two new ways of communicating, specifically, *computer animation* and *computer conferencing*. Finally, I explore the implications of the foregoing for fostering new ways of being literate.

For the most part, since *Homo sapiens* has been up and about on our blue planet, almost the only way to communicate was by verbal and gestural symbolism in direct face-to-face interaction. Sophisticated forms of nonverbal and nongestural communication, e.g., systems of painting or of writing, were latecomers among us. In the Magdalenian period, B.C. 15,000, mural art, as represented in cave paintings, reached a high level of artistic merit in southern France and northern Spain. And in the Fertile Crescent of the Mideast around B.C. 4000 to 3000 there appeared, first among the Sumerians, viable systems of nonalphabetic writing with their associated simple technologies, e.g., the clay tablet and stylus. Next, as we began to approach the *before Christ-anno Domini* point on the time line, a purely alphabetic system of writing was developed by the Greeks.

In retrospect, we now can see that there were three main options for *Homo sapiens* with regard to the development of nonverbal and nongestural systems of communication. At various times and places each of these options, to be discussed shortly, has been tried, though nowhere with complete success. It will become apparent, too, that only recently has technology come to the point where options can be combined to generate a subtle, much more powerful way of communicating. The new system, which I see arising now out of our rapidly advancing technology, *cum* automation, is best thought of perhaps as a transformational technique which I dub "synaesthetic literacy." Synaesthesia is the production, from a sense-impression of one kind, of an associated mental image of a sense-impression of another kind. As this term is applied to literary productions, in contrast to psychological processes, it means writing in one symbolic medium and producing a result for the "reader" or "audience" in another. Synaesthetic literacy represents a qualitative change *vis-a-vis* ordinary reading and writing. Also, this metacommunication technique goes beyond systems of painting or drawing, as these terms are generally understood, by orders of magnitude.

To go back to the beginning in order to put present-day developments in perspective, what indeed were the three options open to

Homo sapiens with respect to the development of nonverbal and nongestural systems of communication? I differentiate these options in terms of the principle underlying their graphics; specifically, it is analytically convenient to distinguish between and among purely *picto* graphic systems, *ideo* graphic systems and *audio* graphic systems of communication. Generally speaking, humankind attempted to exploit these options in the order *picto*, *ideo* and *audio*, while retaining elements of each as the systems evolved.

As was remarked above, human beings found, at least by Magdalenian times, that one good way to convey what anyone had in mind was to draw, model or, more abstractly stated, to "depict" the subject of common concern whether it be a bison, a woolly mammoth, a sabertoothed tiger, or a whatever. However, the production of pictographs, using only the resources of a simple technology, is slow, laborious and leads to an essentially static art form. Once we (meaning humankind taken collectively) went beyond the pictograph, it was to the ideograph that we turned.

The notion of an ideograph can be understood in terms of what it is and what it is not. It is not verbal, not gestural, not iconic. It is a purely conventional mark that conveys the connotation and denotation of a concept. One needs as many ideographs as there are ideas that one seeks to symbolize. Clearly, any society that opts for making a heavy investment in ideographs will very shortly have a plethora of symbols and a demand for a closely knit scribal group to manage them. Again, assuming a relatively simple technology such as that which flourished in the Fertile Crescent and in the valley of the Nile, where the ideographic forms of literacy first emerged in the fourth and third millennia B.C., only the most essential of social transactions could be symbolized in a nonverbal and nongestural way.

The audiograph turned out to be a democratic kind of symbolism.[1] Instead of depicting what one has in mind or instead of isolating a concept, one mimics speech in writing. The alphabet properly understood is a nonautomated transformational device for helping us turn speech into a visible form and vice versa. (The alphabet as such can be made synaesthetic by combining it with suitable automation. For example, the Talking Typewriter, which Richard Kobler and I invented,[2] allows one to type alphabetically and hear speech--the typewriter talks.) Since all natural languages have but a relatively small number of verbal signalling units, there is only the need to master a small number of visible signs for these self-same units. The alphabet did away with scribal monopoly and opened the door to literacy to the general public. Technologically speaking, once we had the alphabet, the limiting factor on the spread of literacy was not the system of symbolism, but the technology of symbol

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[1] For some of the social and political consequences of fully alphabetic literacy, see J. Goody and I. Watt, "The Consequences of Literacy," *Comparative Studies in Society and History*, 1963, 304-345.

[2] See, O. K. Moore and Richard Kobler, *Educational Apparatus for Children*, United States, patent #3,112,569, issued 12/3/63; and O. K Moore and Richard Kobler, *Educational System and Apparatus*, United States, patent #3,281,959, issued 11/1/66. Also, patents were granted in ten foreign countries.

production. Universal literacy could come only with the printing press and other economical methods of producing audiographs.

Each of the three graphic options discussed above has its special virtues; and with social differentiation each option has been developed and refined by its own dedicated adepts. The cultivation of the pictograph has led to the professional artist whether he or she paints with pigment or light, or sculpts or molds the most diverse of materials.

The fullest development of the ideograph has become the special province and responsibility of the mathematician, the mathematical logician, and, more generally the mistress or the master of purely formal disciplines. Mathematics as a deductive science began with the Greeks. They were the first to realize that the relation between ideographs need not be an *ad hoc* one. Incidentally, Greek mathematicians made heavy use of iconic signs in the form of pictographs, e.g., conic sections; however, when the modern abstract mathematician is being most mathematical and most rigorous, one is never given a drawing, a diagram, or any other visual aid, and precious few audiographs, either. The Sumerian ideograph, then, has its most complete expression in deductive formal systems.

The poet, writer, dramatist is the professional manipulator of audiographs. True, some poets, for instance are also painters; an example of a superb poet and first-rate painter is e.e. cummings. However, he did not quite make it as a mathematician as anyone who has read *is* 5 knows.[3]

To be truly literate, in the sense of the three major options, one would have to be an artist, a mathematician and a writer. To be a truly literate consumer of these values one would not only have to be skilled in appreciating the arts, one also would have to be able to "read" journals of mathematics and one ought to be able to read creatively the stunning works of our most accomplished writers. (A small problem arises as to where composers and choreographers ought to be placed. Musical notation is heavily ideographic though there is a kind of spatial iconicity with respect to the arrangement of the notes. Musical notation represents, of course, sounds, but not spoken language. Leaving aside these complications, I would classify musical notation as ideographic, and for the same reason, I would classify elaborate choreographic systems as ideographic, too. By the way, if a composer could make *music* by writing notes, or if a choreographer could produce *dancing* by writing choreographically, then these would be instances of synaesthetic literacy.)

If true literacy calls for reading and writing at this level, ours is a world almost devoid of literates. As a matter of fact, each of the domains, i.e., the domain of the pictograph, ideograph and audiograph, is so demanding that few of us can claim competence much beyond our own subspecialty.

The burden of the present paper is to indicate some of the ways advanced technology is opening up possibilities for a new and higher form of literacy. Forms of communication that combine the three graphic modes are now within our reach. So that my words are not simply audiographs, let me now illustrate what I mean.

In particular, I will show you a 16mm, sound-color motion picture which combines these modalities. But first let me tell you something about advanced synaesthetic film production. Motion pictures thus made are sometimes called "computer films." The making of computer films

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[3] cummings, e.e., *is* 5, New York: Liveright Publishing Corp., 1926, 115 pages.

presently is newsworthy among scientists.[4] From my standpoint the significance of computer films with respect to the issue of synaesthesia is that they are written, *not shot* with a camera (though a camera is used finally, but not in the ordinary way). Further, the scenes shown in a computer film are neither drawn nor painted nor are physical models used. As I remarked above, such films are written and they are written in ideographs, specifically they are written in "computerese." The resulting film depicts and it also may use audiographs. There is a wide variety of methods employed in making motion pictures in this way. One technique that I have explored which was used in the film you are about to see is called "SynthaVision."[5]

Before going on we should be careful to distinguish between the making of computer films and the making of animated movies. The latter have been around since the turn of the century. Animated motion pictures are made by a slow tedious process, one frame at a time, and they require a large number of "animators," e.g., the staff at the Disney studio in its heyday. For instance, the first feature-length animated cartoon, Disney's *Snow White and the Seven Dwarfs* (1938), took four years to make and used 477,000 drawings.

With regard to computer films, about 25 years ago programmers who were on top of computer science and who had access to high-performance computers began to coax their machines to produce interesting visual displays. One problem that led to this development was that the computer had begun to tell us more about whatever we asked of it than we could read or intellectually digest. The computer-generated displays, so very painstakingly programmed, were intended to make relations between complex bodies of data clearer, and to make the simulation of complicated processes more informative. Thus, computer films emerged as one part of a heuristic answer to the perplexities of solving problems which were intractable using only ideo- and audiographics. One of the pioneering films of this genre was made at Bell Laboratories and it depicts the effects of different gyroscope constraints on an orbiting satellite.[6] This film does depict, but it should be kept in mind that the director/writer only wrote ideographs. No crew took cameras in hand to shoot a wily satellite, nor did a crew shoot drawings, pictures or physical models. Instead, a writer *wrote* in "computerese." His, as well as the film you are about to see, are instances of synaesthetic literacy.

Turning now to our SynthaVision film, you will observe that it comes

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[4]For an excellent recent article on this subject, see Arthur L. Robinson, "Computer Films: Adding an Extra Dimension to Research," *Science*, 1978, 19: 749-752.

[5]SynthaVision, itself, is a proprietary process of Computer Visuals, Inc., Elmsford, New York, a subsidiary of Advanced Technology, Inc. This process was introduced for commerical application in 1973. For a technical description of it see Robert A. Goldstein and Roger Nagel, "3-D Visual Simulation," *Simulation*, 1971, 25-31. I have discussed SynthaVision elsewhere. See "Media," *Sociological Practice*, 1976, 1: 137-139; 1977, 2: 55-61.

[6]For an account of this film see Edward E. Zajac, "Computer-Made Perspective Movies as a Scientific and Communication Tool," *Communications of the ACM*, 1964, 7: 169-179.

in two parts. Each part was designed to show the potential of computer films. The first part tries to rival Disney, it is too cute and, to my taste, sickeningly saccherin. It only shows again that sound artistic judgment is not guaranteed by advanced technology. The second part is better. It consists of a portion of a longer film on the DNA molecule, chromosomes and cell division. Here, I trust you will get a sense of the power of the method. It will be apparent to you that computer-generated films in color can be made of complex objects and relations that need not exist and perhaps never will exist; yet we can simulate what we believe might exist. Further, since programs can be written from any perspective that one is clever enough to take, the method allows one to operate one's "symbolic camera" inside, outside, alongside, or by the side of anything, real or imaginary. In sum, the obvious limitations of this method are in the imaginations of the "synaesthetic writers."

[Show film. For information about this 16mm, sound-color film, write to The Responsive Environments Foundation, Inc., 146 Oakhurst Road, Pittsburgh, PA 15215, 412/781-9544.]

Most people who have seen this film want to know, in general terms at least, how it was made. Given below are the five basic steps which Goldstein and Nagel[7] have outlined.

1. The scenes to be pictured are represented by punching ordinary IBM cards and feeding them into an IBM 360/365 computer system.

2. The computer is instructed, by code numbers, how to move the objects in the scene over a number of film frames. In SynthaVision, the essential proprietary process has to do with the definition of an "object." The programmer employs a user-oriented, building-block approach in creating objects. Goldstein and Nagel proceed on the assumption that most objects, though complex overall, can be subdivided into simple geometric figures. Starting with a small set of figures (e.g., a sphere, a right circular cylinder, a right elliptic cylinder, a truncated circular cone, a truncated elliptic cone), the model builder can construct an infinite variety of complicated objects.

3. The picture intensity, point by point, is calculated by the computer and placed on magnetic tape. Several frames can be calculated at one time during this production stage.

4. Work "prints" may be viewed on a TV receiver to check for image quality, movement, and programmer errors.

5. The final step is to photograph individual frames. This is done by placing the magnetic tape on a mini-computer that translates the tape's information into pictures that appear on a cathode ray tube (CRT). Any conventional movie camera mounted in front of the CRT can then photograph each frame. A color wheel revolving in front of the camera will produce color images. After the film, plus its sound track, has been shot, it is developed in the usual way.

The foregoing account of how to make a SynthaVision film is oversimplified. Furthermore, with the never-ending rush of technological advancement this procedure for generating films is obsolete. However, I hope that I have at least succeeded in giving you a sense of the potential of computer films. For present purposes, though, the question is "What ought we make of all of this?" Let me draw out some of the consequences which I think

[7] Goldstein, Robert A. and Roger Nagel, *Op. cit.*

flow from it. They are:

(1) Clearly there is a new way of being literate. One can be a Goldstein or a Nagel and by typing out instructions on a computer console one can make images that move.

(2) Presently in the United States there are perhaps one hundred practitioners of the art of making computer films. Each depends upon a sophisticated, very costly technological substructure in order to write instructions that work. It is as if they had thousands of slaves, perhaps millions, who do their imaginative bidding. Those who have neither the technical expertise to write computer films nor the high-performance computers to write them with cannot compose. The hypermodern counterpart to the stylus, the pen, or the printing press has become extremely costly.

(3) Highly sophisticated, automated technology is producing a difficult-to-bridge gap between ordinary literacy and synaesthetic literacy. In my mind, there is some danger that high-performance technology will lead, sociologically speaking, to a new scribal culture. The technology of writer, cum book, was cheap and democratic; however, the scribal ideographic cultures of Mesopotamia and Egypt were expensive and markedly undemocratic, and so may be our new forms of authorship.

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My second example of a new form of literacy is computer conferencing. Perhaps since this paper was written for a conference, it would be most illuminating to compare and contrast this and similar conferences with the generalized notion of computerized conferencing as a communication medium. Starr Roxanne Hiltz,[8] a sociologist who has concerned herself with assessing the social impact of this new communication medium, has written perceptively on what is so special about computerized conferencing. Here I follow her analysis quite closely and then make some fresh points of my own.

First, a few comments about the technology itself. The basic idea is to have a group of people, more than one and conceivably several thousand, communicating with each other by typing and reading from computer terminals, and not by speaking and listening. In the simplest form of computer conferencing each terminal is rather like an electric typewriter. (Of course, fancy computer graphics, including real-time computer films can be, and undoubtedly will be, added as technology improves.) Each participant's terminal is connected to a central computer by means of the telephone. Anyone who has access to a telephone line can participate if he or she is a properly accredited, computer-equipped member of the conference. Conferees can send messages to anyone (privately or not), to any subset of the conference members (privately or not), or to the conference as a whole. The participants can enter the system whenever

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[8] Hiltz, Starr Roxanne, "Computer Conferencing: Assessing the Social Impact of a New Communications Medium," *Technological Forecasting and Social Change*, 1977, 10: 225-238. Hiltz has worked closely with Murray Turoff. I consider Turoff the major pioneer in asynchronous computer conferencing. Any reader interested in this topic would be well advised to start with, Murray Turoff, "An On-Line Intellectual Community of 'MEMEX' Revisited," *Technological Forecasting and Social Change*, 1977, 10: 401-412; Murray Turoff and Starr Roxanne Hiltz, "Meeting Through Your Computer," *IEEE Spectrum*, May 1977, 58-64.

they wish, day or night. For example, if one is a night owl one can talk "interminably" without keeping anyone awake. Early birds can sign on at, say, five o'clock in the morning and read the messages from night owls. If one has been conducting an intensive correspondence with Professor X, for instance, and one wants to review the record before answering some particular query, the computer can be asked to produce prior correspondence from date such and such on topic so and so, in short, there is virtually instantaneous retrieval. Presently, computer conferencing networks allow each participant a personal "notebook" so that one can review and edit what one sends out before sending it. Also, such systems make it easy for the conferees to maintain an on-line bulletin or newsletter. There are many other special features of this kind, but perhaps I have said enough about the general idea so that it is clear.

Now, how does computer conferencing differ from other modes of communicating, such as the present face-to-face conference, or telephone conferences, or roundrobin letter writing? Hiltz organized her discussion of the critical differences around the following four points.

(1) Remoteness and Impersonality

As she points out, time and distance barriers are removed. Geographically dispersed persons can send or receive messages whenever it is convenient for them. Yet, if participants choose, they can operate in real time. Ordinary letter writing is not a real-time operation and the telephone often is too demandingly real in its time dimension. This is why so many people have a secretary pick up the telephone.

On the score of impersonality, there is both the advantage and the disadvantage of distancing. What is written is what comes across and not the gestural and vocal overtones. One is almost forced to talk sense. The half sentences, the winks and the nods cannot embellish an argument, or detract from it either.

Not even the most ardent advocates of computer conferencing maintain that this medium should replace the flesh-and-blood conference. But we must admit that conferences such as the present one are short-lived, expensive, and difficult to arrange. But the computer conference can go on before and after, and thus bridge the gap between live conferences.

(2) Self-Activated and Self-Paced Participation

As we all know, one of the hazards of group discussion at conferences is that one or two people take center stage and are most reluctant to yield it. Some very bright and creative people are disinclined to push themselves forward. In short, there are too few participants and too many nonparticipants in all too many live conferences. With computer conferencing there is no restriction on "talking." If one prefers to pace one's participation slowly and thoughtfully, that can be done, too. No one can be shouted down or intimidated. If a written discussion should get too hot to handle, code names can be introduced just as they are in the anonymity of CB talk.

(3) Permanence

Assuming that the computer programming has been done properly and there are failsafe backup systems to preserve the record, there is no worry about losing or forgetting communication. If one comes out with a patentable idea it is permanently there with the proper date. This makes it possible to look back and see who really had good ideas. As things stand now, some modest person may make a beautiful point at a live conference only to have it stolen and exploited by some academic entrepreneur. There is no way to prove that you made what turned out to be a crucial contribution. Contrariwise, in computer conferencing you can.

(4) Larger Decision-Making Groups

In face-to-face interacting groups it is very hard to maintain active participation of the members once the group becomes larger than a "small" group. (Most sociologists consider 20 as the upper limit for a small group.) The trouble is that in face-to-face verbal interaction if someone is speaking then everyone else must listen. With computer conferencing, speaking and listening, as it were, are uncoupled. Hence, much larger groups can be kept actively involved on a task.

In summary, the preceding four points concerning (1) remoteness and impersonality, (2) self-activated and self-paced participation, (3) permanence, and (4) larger decision-making groups, cover pretty well the distinctive features of computer conferencing.

What I want to add to this analysis is that there is a new form of literacy involved here. Anyone can see that the ability to read and write well is an obvious factor in participating in computer conferencing. Whether one has beautiful blue or brown eyes does not count as much as semantics and syntax. The conference colleague who always had depended upon his publisher's editorial staff to turn his or her fractured English into professionalese will find a computer conference somewhat trying. Even spelling and punctuation count for something. Computer conferencing requires the standard literary skills; this should please the old-fashioned English teacher, if there are any left to be pleased.

However, to participate effectively in a computer conference one needs some synaesthetic literary skills, too. There are special user-oriented computer languages which must be mastered if one is to exploit the resources of this new medium. The most generic of these computer languages are text editors of one kind or another and special language for running off one's production according to a rich supply of formats. In effect, the conferee, in making a contribution to his "invisible colleague" has a dual problem. He or she must be able to write succintly and well, but in addition he or she must be an expert in the metalinguistic tricks of assembling and reassembling relevant materials almost at will. The synaesthetic literacy part consists of knowing and becoming adept at using these language auxillaries, these metalinguistic aids. Perhaps one way to convey precisely what I mean is to say that synaesthetic literacy, of a computer conferencing kind, involves the skills and competencies both of the traditional author, and of the typographer who turns crude manuscripts into polished publications.

At ordinary face-to-face conferences there are sets of skills for presenting ourselves and presenting our work convincingly. Computer conferencing, too, requires new ways to present ourselves and our work.

At this point, someone might wonder whether computer conferences are simply a technological possibility or whether there have really been any such conferences. The answer, of course, is yes. The first of these was conducted in 1970, and various federal agencies including The National Science Foundation have been funding them ever since. They bring together and tend to keep together influential groups of specialists who go on conferring day in, day out, week in, week out. This is a very potent social mechanism for intellectual and scientific cooperation and coordination. Computer conferencing just now is gaining sufficient momentum so that it is probable that it will make a major difference in the conduct of research soon.

For a change of pace, let me personalize what I am talking about. Imagine that with respect to whatever your own speciality is that there

are about 50 people in the United States who are the key figures in it. Imagine, also, that they are writing to each other via their terminals all year long; for instance, when one of them has an interesting idea to float, he or she can get quite immediate feedback from the other 49. Now while we are imagining, think of what it might mean to your own professional development to be or not to be in this ongoing, invisible computerized conference. Of course, if you are a telephone addict and a relentless letter writer you probably can get sufficient responses from your colleagues to satisfy your professional needs *sans* a terminal; but, I submit that the probability is that you would find yourself, in the long run, at a disadvantage were you outside the computer network.

I conjecture that advanced technology is producing closely knit, highly interactive groups of specialists through computer conferencing, and with their growing skill in synaesthetic literacy I think there is a split likely to occur between those who are in and those who are out of the high--technology networks. Fortunately, computer conferencing can accommodate much larger groups than the usual ones, and so, in principle, this technique can be extended to more of us. It does have a democratic potential.

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The last section of this paper takes us back to the less esoteric, but equally fascinating, problem of teaching elementary literary skills. If anyone should agree with me about the emerging higher-order forms of literacy involved in computer films and computer conferencing, then what does this imply for beginning reading and writing? Quite obviously I have a position about all of this. At the very least one should teach basic literacy skills in such a fashion that the learner should not feel uncomfortable in taking part in a computer conference. And at least some learners should emerge as the Shakespeares, the Dantes or, if you will, the Picassos of computer films. Further, whatever techniques we use in early instruction should be applicable to severely disadvantaged learners. Those children who come from the most economically impoverished sections of our society, or any other society, should have a fair chance to master the modern forms of communicaton. My colleagues and I, who are members of the Clarifying Environments Program,[9] have thought long and hard about all of these issues. The procedures and technologies which we have invented or adapted for these purposes have achieved some small measure of recognition. Yet, let me be most explicit about the following qualification. Whereas there are many methods which work reasonably well to achieve specifiable and delimited educational objectives, there is no program in existence, to the best of my knowledge, which fully satisfies the demanding requirements of moving early learners, i.e., preschool children, from ordinary reading and writing to sophisticated forms of synaesthetic literacy. In any case, it is our objective to accomplish just this.

Perhaps one good thing to do now is to provide an illustration of how we handle the problem of inculcating early literacy. The film to be

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[9] For the most up-to-date statement concerning the Clarifying Environments Program, see Omar K. Moore, *The Clarifying Environments Program: 1960-1980*. Pittsburgh: The Responsive Environments Foundation, Inc., May 1978, 63 pages. This monograph will appear as a chapter in an NSF sponsored book on research organizations.

shown now makes clear that impoverished youngsters here in Pittsburgh achieve intellectual excellence with the aid of high-performance computer technology. This technology, in turn, is something they are learning to master by way of acquiring synaesthetic literacy.

[Show film, *Reaction to Black Excellence*, written and directed by O.K. Moore. For information about this 16mm, sound-color film, write to The Responsive Environments Foundation, Inc., 146 Oakhurst Road. Pittsburgh, PA, 15215, 412/781-9544.]

Summary Comment

My main purpose in the present paper was to illustrate some of the new forms of literacy that are emerging out of the potential of advanced technology. I chose computer films and conferencing to make my point. The distinctive feature of the new literacy is that it synthesizes symbolic modalities. The generic term for this new development is synaesthetic literacy. The instructional challenge to all of us is to build an educational sequence to carry even underprivileged youngsters from early reading and writing to creative metalinguistic expertise.

PARENTAL INFLUENCE ON THE DEVELOPMENT OF BASIC SKILLS

Frances Yvonne Hicks
Department of Health, Education and Welfare
Washington, D.C.
and
Bettye Anne Battiste
Urban Affairs Corporation
Houston, Texas

Introduction

According to Heilman (1977), there are a number of objectives which children in the primary and intermediate grades should master if they are to become efficient readers. Within his identified objectives were such reading skills as: developing sight vocabulary, expanding word meanings, learning phonic principles, using punctuation, reducing reading errors, understanding affixes, using the context and recognizing that reading is purposeful.

Parents may assist with the mastery of these skills by engaging their children in a number of simple inexpensively designed activities. Some activities may be embedded in everyday occurrences. For example: Scales (1978) suggested that parents include as much information as possible in directions that are given to children. During bathtime, playtime or mealtime, a parent may say to a child, "Let's take a bath with the blue towel today," in lieu of "Let's take a bath." While shopping, parents could direct their children to select particular cereals, soaps, or dog foods. Other activities such as, (1) sorting: spoons from forks, small buttons from large buttons, blue shirts from red shirts; (2) identifying: milk and water, beds and sofas, chairs and swings; and (3) memorizing: telephone numbers, home and parents places of employment addresses; all serve to make children alert and further helps them learn to identify similarities and differences. Being able to distinguish between similar objects and different objects is an important skill for children to master while learning to read. Knowing that there is a difference between objects may help children realize that there is a difference between written words. Activities of this type are expected to facilitate not only the mechanics of reading but comprehension as well.

As children progress through the grades, they will be further introduced to more complex reading skills. Larrick (1975), Weiss and Weiss (1976) and Heilman (1977) noted that there is a shift in the focus of reading instruction at approximately the end of the primary grades. At this time children are expected to assume a more independent role in the reading process and the teacher, for the most part, is not as integrally involved with the teaching of word identification skills.

To facilitate this shift in focus parents may insist that their

children read materials found in the home for meaning and action. A bicycle manual, cookbook, instructions for assembling a toy are examples of suitable reading materials for children.

Activities for Parents

There are some activities that parents can use to enhance their children's reading ability as well as encourage a positive attitude toward reading. One of the most important things that parents can do is to help their children develop an understanding of what reading is all about. Oftentimes children may recognize or identify words, but may not understand the meaning of those words in sentences and/or stories. To help children overcome part of this difficulty, parents may help them to understand three basic yet common concepts. The concepts, seemingly simplistic are that: 1) printed words or symbols stand for things that you say; 2) speech can be written and written text can be spoken; and 3) reading is necessary and useful to everyday existence.

Activities such as the following can be used to aid children with the development of basic reading skills. Consequently, parents who want to aid in this development are advised to:

1. Try to read with your child every day - find out when s/he likes to be read to and what s/he likes to read. Let your child read to you.

2. Try to arrange for your child to watch Sesame Street, the Electric Company and/or Mr. Rogers. These programs have demonstrated effectiveness in reading concept development.

3. Encourage your child to draw and write - have writing and drawing materials available in some location where they are available and easy to reach. Display your child's work; praise is important.

4. Play games involving letters (alphabets) sounds, words and numbers.

5. Have large letters (magnetic/plastic letters) which can be taken from room to room so that you can talk with him/her about them in settings such as the laundry and kitchen. This is especially good for busy parents.

6. Borrow or purchase records and book sets which will enable your child to hear books read, and look at words and pictures at the same time. Many libraries have these materials for loan.

7. Provide various types of reading materials at home such as books, magazines, newspapers and posters.

8. Make reading important at home. Serve as models by letting your child see you read and talk about values, uses and purposes for reading. Encourage sharing of books among family members.

9. Point out words, letters, signs on food containers, billboards, television. This can be done while at the grocery store, in the car or in almost any setting.

10. Go to the library, bookmobile and bookstore with your child. Give books as presents.

11. Provide opportunities for your child to talk with family members and other people. Let your child ask questions and allow time for answers.

12. Assist your child in expanding his/her sight-word vocabulary. This can be accomplished by helping the child identify names of things found in the home. Label such items clearly in the child's room, the kitchen, living room and so forth. Remember, repetition helps reinforce both learning and a sense of accomplishment.

13. Encourage your child to talk about the books s/he has enjoyed and to make up stories of his/her own. Sometimes take a few minutes to write the story down and/or ask the child to help.

14. Avoid using pressure. Do not use emotional pressure or threats to get your child to learn to read. Never punish, bribe or push. Try to figure out why the child becomes confused with a reading game or activity and then proceed with a clear explanation.

These type of home activities are important. Parents and their children will interact with each other while working through activities such as the ones mentioned above. This interaction should serve to further provide enrichment experiences for developing reading skills.

Home Reading Activities

Many organizations and agencies have suggestions for parents to use in home reading activities. Parents may obtain some of these suggestions by writing to the organizations and agencies listed below.

American Library Association
50 East Huron Street
Chicago, Illinois 60611

International Reading Association
800 Barksdale Road
Newark, Delaware 19711

Pennsylvania State Department of Education
Early Childhood Office
P. O. Box 911
Harrisburg, Pennsylvania 17126

Reading is Fundamental (RIF)
L'Enfant 250
Smithsonian Institution
Washington, D.C. 20566

Right To Read
400 Maryland Avenue SW
Room 1167, Donohoe Building
Washington, D.C. 20202

Home Start
Department of Health, Education and Welfare
P. O. Box 1182
Washington, D.C. 20013

Parent/Early Childhood and Special Programs Staff
U. S. Office of Education
400 Maryland Avenue, SW Room 2083
Washington, D.C. 20202

National Urban Coalition
1201 Connecticut Avenue, NW
Washington, D.C. 20036

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Larrick, N. A Parent's Guide to Children's Reading. New York: Bantan Books, 1975.

Scales, A. M. "Tips for Parents on Reading", New Pittsburgh Courier. Vol. 70, No. 12, March 15, 1978, p. 13.

Weiss, H. G. and Weiss, M. Home is a Learning Place - A Parent's Guide to Learning Disabilities. Boston; Little, Brown and Company, 1976

ABSTRACTS OF WORKSHOPS

REACHING OUT TO READERS: VOLUNTEERS, PARENTS,...

Betty Fleming
ESEA Title I -- Wilkinsburg, PA

This workshop presented an analysis of techniques for reaching out to readers through an appeal to the human resources in the home and community. Specific experiences that have recorded favorable results for the readers involved were explored through needs assessment, planning, implementation, and evaluation phases. The concluding portion of the workshop was devoted to discussions on how to adapt techniques to different school settings.

THE ROLE OF THE SENIOR CITIZEN IN A MIDDLE SCHOOL READING PROGRAM

JoAnne E. Burley
University of Pittsburgh, PA

The role of the senior citizen as an integral part of a public middle school instructional reading program was described. The goals of the instructional reading program were presented with emphasis on the role of the senior citizen serving in the capacity of a paraprofessional. The senior citizens' actual participation took place at Reizenstein Middle School in Pittsburgh, PA. The agency which supported the utilization of the senior citizens was the Comprehensive Employment Training Act (CETA). Through the combined efforts of the Pittsburgh Public Schools and CETA, six senior citizens added a new dimension to learning for over 200 students.

A slide presentation entitled "Bridging The Gap" showing the senior citizens as they participated in the instructional reading program concluded the presentation.

LITERATURE GAMES FOR ELEMENTARY STUDENTS

Carol J. Veitch
Murry State University, KY

Literature games are both fun and educational. Games and puzzles provide a break in routine while introducing or reviewing literature-related concepts. Types of games and their uses are limited only by the imagination and creativity of teachers and students, and should be used as an adjunct to, not a substitute for, a well-balanced classroom literature program. Literature games help to individualize the literature program, stimulate students to read books and review book elements such as plots, characters, authors, and titles. Literature games can be used for rainy days recess periods, special holiday activities, or as a regular feature of a total elementary literature program. Pencil and paper games can be included in individualized

learning station activity packets; board games might be used with small groups of students who have completed homework or other activities. Team games involve the class as a group and frequently provide opportunity for physical movement of the players.

Construction of literature games requires time and careful thought on the part of teachers. Students can enjoy and profit from opportunities to construct their own literature games and puzzles. Basic game ideas can also be modified to meet the needs of students on all grade and ability levels.

Participants in this workshop constructed and played literature games.

BEYOND HOOKED ON BOOKS

Norman Stahl and Karen Thomas
University of Pittsburgh, PA

Focusing on the classroom that does not have all those great paperbacks, this workshop titled "Beyond Hooked on Books," expanded the hooked on books concept to those old school texts and anthologies which can be converted into "best sellers."

The highly successful "Beyond Hooked on Books" concept which was instituted in Capitola Intermediate School in Soquel, California was described. This multi-ethnic intermediate school witnessed accelerated achievement in the reading area reflecting the highest scores in that district.

The workshop centered around young adult literature and various learning activities related to literature: book talks, book sales, school book store, journal writing, book raffles, games, activities, and community support.

USING LEARNING CENTERS TO IMPROVE READING

Jacquelyn M. Gregory, Brentwood Borough, PA
Rita Polansky, Cannon McMillan School Districts, PA

A learning center is primarily a place to learn. In a learning center children can become involved in individual or small-group activities without being graded for their performance. They should find the center a pleasant environment in which they can select, pace, and evaluate their own learning experiences.

Experiences of the workshop presenters with classroom learning centers provided practical guidelines for teachers interested in developing their own centers. These include such considerations as defining the center's purpose, organizing the center, and selecting appropriate subject matter and activities.

In addition to guidelines for establishing a learning center, numerous activities for enhancing reading interests and promoting reading skill development were presented.

READING-STUDY SKILLS IN THE JUNIOR HIGH SCHOOL

Averett Shannon and Cheryl Chapman
McKeesport School District, PA

This workshop acquainted participants with key strategies for teaching reading-study skills in the junior high school. Demonstrations were also made to show how these skills can be integrated into the total school curriculum. Content area reading materials were stressed as the source for developing reading-study skill abilities, including, functional reading skills, skimming and scanning, and preparing for examinations.

DEVELOPING MINIMAL COMPETENCIES IN READING AND WRITING FOR SECONDARY STUDENTS

Nancie Dent and Patricia Boykin
Circle Community High School, PA

During the 1977-78 school year the staff of Penn Circle Community High School (PCCHS) began the process of developing minimal competency objective statements for its graduating seniors. The purpose of this workshop was to share some of the findings and concerns of PCCHS's staff. But, more importantly, the workshop's purpose was to generate group discussion and thought on minimal reading and writing competencies, with a focus on the content of minimal reading and writing objective statements.

The purpose was developed in three phases.

I. Group discussion - What is your definition of minimal competencies in reading and writing?
II. Examination of sample reading and writing competency objective statements chosen from various sources.
    A. Discussion - Problems and implications of the specific competency objective statements examined.
    B. Discussion - Should minimum competency objective statements emphasize basic skills (those skills/knowledges required for everyday adult reading and writing tasks)?
III. Open Discussion - Topics of major concern to workshop participants.

READING, WRITING AND THINKING SKILLS IN CONTENT AREAS: SECONDARY LEVEL

Adria Kelleher
Shaler Area School District, PA

Content area teachers are educationally prepared and justifiably concerned with key-concept development. To facilitate the interpretation and application of key concepts for a schematic understanding of content area emphasis, it is proposed that a saturation of reading, writing and thinking skills diffused through content areas will improve the quality of comprehension. Through constant, meaningful exposure in context, skill development becomes inescapable and results in an improved

cognitive framework with more coherent oral and written responses.

Reading, and the application of reading skills, can become an integral component of content emphasis through reading, reasoning and study guides, oral reading of literary selections related to the units of study, and key-concept vocabulary development experiences. Meaning-related writing experiences designed to incorporate prewriting, incubation, formulation and refinement opportunities can improve the quality of written expression as well as reinforce the reality of writing as an unavoidable part of classes in which writing has previously been less important. Critical thinking skills refined through higher level questioning techniques, oral composing experiences, problem-solving discussions and the liberal use of advance organizers will have a positive effect upon the quality of comprehension.

A panacea for key-concept development in content areas cannot be offered, but a feasible, meaningful, structurally integrated approach may run a close second.

IMPROVING STUDENT WRITING SKILLS IN THE MIDDLE SCHOOL: AN INDIVIDUALIZED APPROACH

Gayle W. Griffin and Elizabeth P. Sanford
Reizenstein Middle School, PA

This workshop demonstrated techniques for improving the writing skills of middle school students through an individualized approach. A technique was stressed for students who have difficulty expressing a complete thought in writing. The technique presented links parts of speech into a sentence. In order to reinforce the grammatical concept presented, the concluding activities linked the development of sentences into a creative writing exercise.

For the budding young writer who has the basic structural foundation and creativity but needs to develop paragraph organizational skills, activities for writing topic sentences, supportive sentences, and concluding sentences were demonstrated.

Participants prepared a folder of appropriate activities from those presented or suggested by workshop participants.

TEACHING WRITING IN THE ELEMENTARY SCHOOL

M. Alice Callier
Dayton Public Schools, OH

The need for excellence in teaching English is greater than ever before. If we are to pursue the individuality dear to the American ideal and at the same time teach reasonable control of mechanics, the procedures that accomplish these goals are paramount necessities.

The aims of this workshop was to explore with participants, strategies for teaching children to write well and to enjoy writing. By achieving writing balance both excellence in composition and joy in self-expression can result in informational, objective composition, and in imaginative subjective composition.

How will teache[illegible]in these aims or goals? The teacher will do so by: 1) sens[illegible] and how to introduce fresh experiences, 2) providing a weal[illegible] satisfying experiences with oral expression, and 3) involving effe[illegible]ve adult relationships with new materials for sharing with knowledgeable adults.

TEACHER-COUNSELOR APPROACH TO LEARNING SKILLS DEVELOPMENT FOR NON-TRADITIONAL STUDENTS

Bobbie Cromartie, Renee Frazier, Sara McKain, Barbara Porter
University of Pittsburgh, PA

The University-Community Educational Programs (U-CEP), through its flexible admissions process, admits and provides extensive supportive services for two groups of non-traditional students at the University of Pittsburgh: the underprepared, recent high school graduate and the working adult entering college fifteen to twenty-five years after high school.

In an effort to increase the retention rate of both groups, a course was designed to systemically expose students to the social, cognitive and affective learning skills required of students who would be successful in the college situation. The Teacher-Counselor approach is essentially a student-centered one wherein learning results from a teaching/counseling posture.

Workshop activities focused on the course objectives and methodologies. A videotape presented a typical teaching/counseling session featuring learning styles during a group and individual diagnostic session.

CREATIVITY FOR THE REMEDIAL READER

Mary Jo Murgas, Title I -- Greater Johnstown School District, PA
Rebecca M. Wicks, Central Catholic Elementary, PA

Educational research has shown that children are more easily tuned in to learning in creative situations than in authoritative situations. The strict teacher-directed learning environment curbs student tendencies toward divergent thinking.

Every student possesses some degree of creativity, and the school bears responsibility for developing, rather than stifling, that creative behavior. This workshop focused on creative experiences for the remedial reader.

The premise taken is that, yes, remedial readers do possess creativity, and educators have the responsibility to keep it alive.

An underlying principle for using creative experiences with remedial readers, is that they can be motivated to learn specific reading skills in a unique and interesting way. No longer are they bored; to the contrary, they are enthusiastic and feel challenged.

The workshop proposed the use of creativity tests and teacher recognition of creativity in remedial students. Teaching strategies which can be used to develop creative thinking abilities were presented. Participants experienced actual creative tasks which were followed by

explanations of how such tasks can be used to develop specific reading skills. Also included were slide presentation of elementary students using this creative approach to remediation.

CONSTRUCTING AND IMPLEMENTING A TUTORIAL PROGRAM

Saundra Kubincanek and Glenna McIntyre
Central Green School District, PA

It has been recognized by authorities that many children learn to read best when taught individually. However, in the course of a normal school day, it is usually impossible for the classroom teacher to find the time to give sufficient individual attention to the students who require it. Based on this premise, it appears what is needed is an inexpensive tutorial system that can be utilized by a variety of personnel, both professional and non-professional. The workshop presented a method in which any teacher or reading specialist may develop a tutorial program to correlate with the basal reading system being used in the classroom.

Tutorial procedures were demonstrated by means of a video tape replay of an actual tutorial session conducted by a non-professional person. Methods for planning and implementing such a program were demonstrated and explained. Suggestions were also given as to how a tutorial program can be adapted to basal reader series and how it can be applied by a professional or non-professional person.

PHONETICS-PHONICS FOR PRIMARY TEACHERS

Frances Sabo, Norwin School District, PA
Donna J. Martz, Westmoreland Intermediate Unit, PA

Phonics is taught by classroom teachers as a method for decoding unknown words. Chall revealed in her study that phonics was the most effective method of learning to read for the majority of students. In order to make phonics effective for students, teachers must be aware of the placement of the articulators when teaching the sounds of the letters. By being aware of how sounds are made, teachers help students improve their decoding skills and auditory discrimination skills, which in turn increases the students' comprehension which is the ultimate goal of teaching reading.

Teachers are being forced to assume a greater role in speech improvement. This is due to PL94-142, Education of All Handicapped Act, which will cause speech pathologists to concede most of their teaching time to the severely speech impaired students.

There appears to be a greater number of students requiring speech classes in the schools today. This may be due to several reasons but a major reason may be the loss of adult speech models through: 1) more broken homes, 2) more homes in which both parents work, and 3) more TV viewing by students. Consequently, teachers need to include speech improvement in their phonic lessons and to be aware of the placement of the articulators when teaching phonics.